



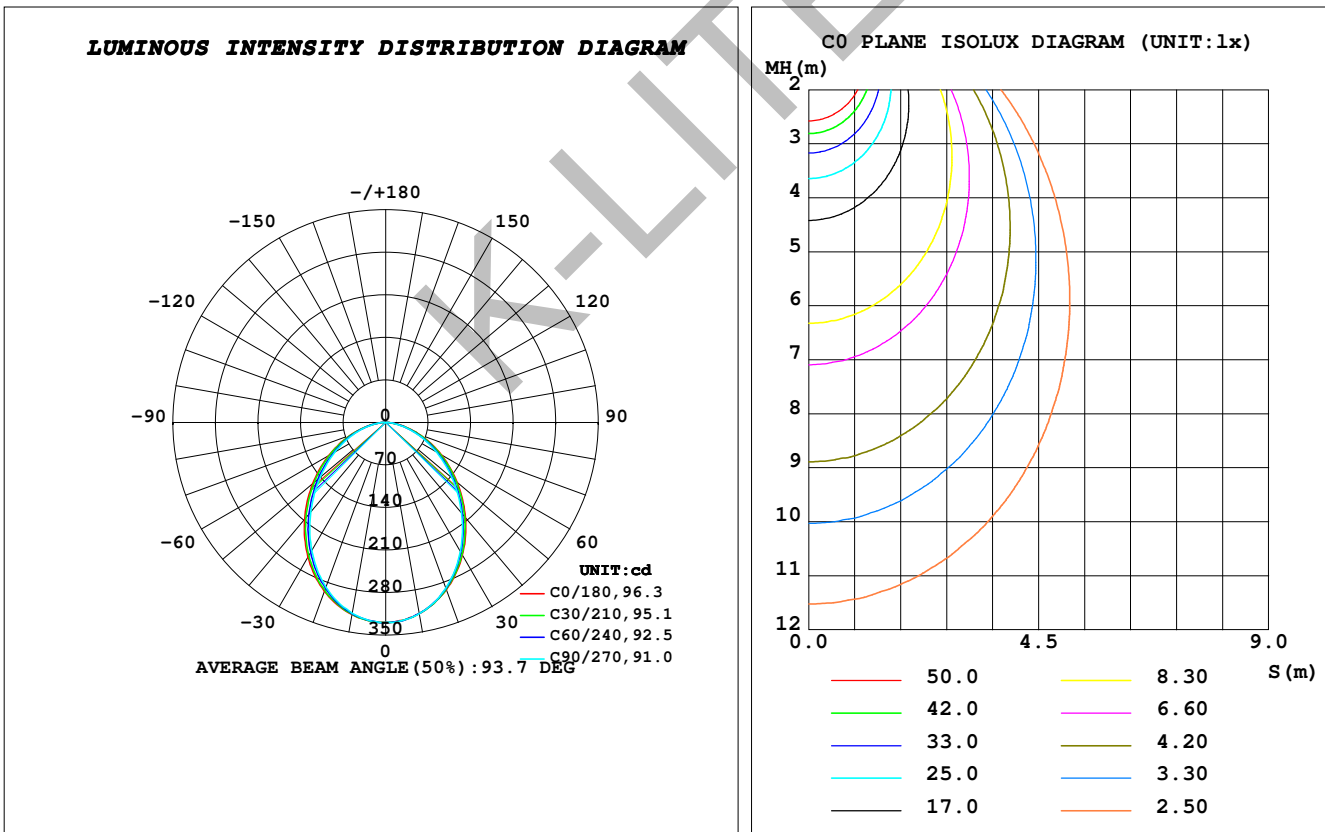
Light Output Ratio:	100.0%	
Luminaire Power:	13.26 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

**C Range: 0 - 360DEG****C Interval: 15.0DEG****Test Speed: HIGH****Temperature: 25.3DEG****Operators: AKRAM BASHA.H/BALAMURUGAN.****Test Date: 24 April 2020****γ Range: 0 - 90DEG****γ Interval: 1.0DEG****Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417****Humidity: 65.0%****Test Distance: 1.836m [K=1.0000]****Remarks:**

**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	KL-4763	Imax (cd)	329.7	S/MH (C0/180)	1.16
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.12
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	759.44	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	759.438	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30



**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN**  
**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	319.3	319.7	319.2	320.6	321.1	319.6	318.6	317.9	0- 10	30.96	30.96	4.08,4.08
20	292.5	291.7	290.0	293.9	295.6	291.8	288.2	289.1	10- 20	86.55	117.5	15.5,15.5
30	252.5	249.9	245.9	252.2	255.9	249.6	243.6	247.2	20- 30	125.0	242.5	31.9,31.9
40	204.3	200.4	194.5	202.7	207.8	199.9	192.0	197.4	30- 40	140.7	383.2	50.5,50.5
50	153.8	149.5	143.1	151.1	156.8	149.1	141.4	146.9	40- 50	134.4	517.6	68.2,68.2
60	105.3	101.5	95.64	102.7	107.8	101.5	95.43	99.93	50- 60	111.5	629.1	82.8,82.8
70	60.73	57.79	54.10	58.65	62.37	58.96	55.33	58.18	60- 70	78.41	707.5	93.2,93.2
80	23.14	21.38	19.75	21.98	23.80	23.50	22.21	22.93	70- 80	41.73	749.2	98.7,98.7
90	0.0247	0.0227	0.0288	0.0430	0.0401	0.5857	1.003	0.5459	80- 90	10.21	759.4	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature:25.3DEG**

**Operators:AKRAM BASHA.H/BALAMURUGAN.**

**Test Date:24 April 2020**

**$\gamma$  Range: 0 - 90DEG**

**$\gamma$  Interval: 1.0DEG**

**Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

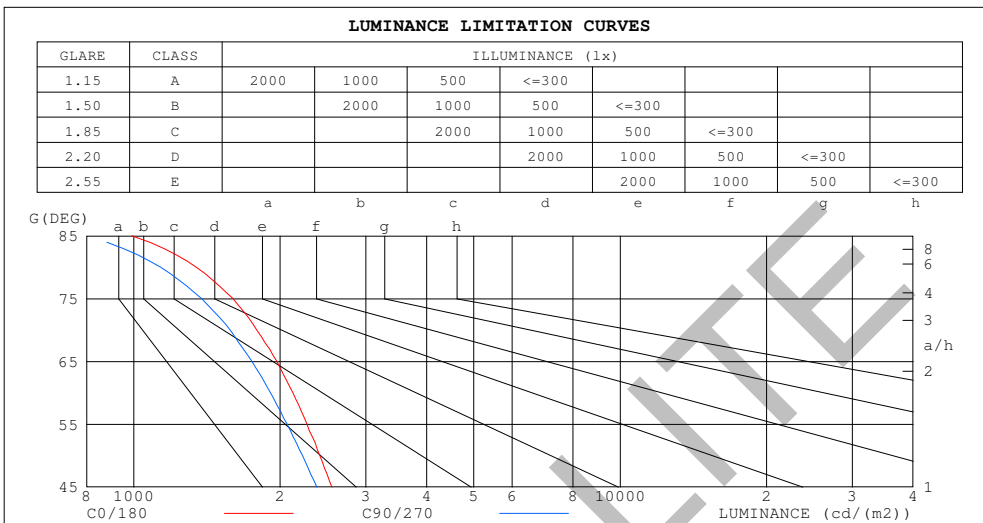
**Humidity:65.0%**

**Test Distance:1.836m [K=1.0000]**

**Remarks:**

**LUMINANCE LIMITATION CURVES**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	991	793
80	1344	1135
75	1600	1378
70	1791	1579
65	1970	1749
60	2124	1910
55	2270	2067
50	2414	2222
45	2554	2379

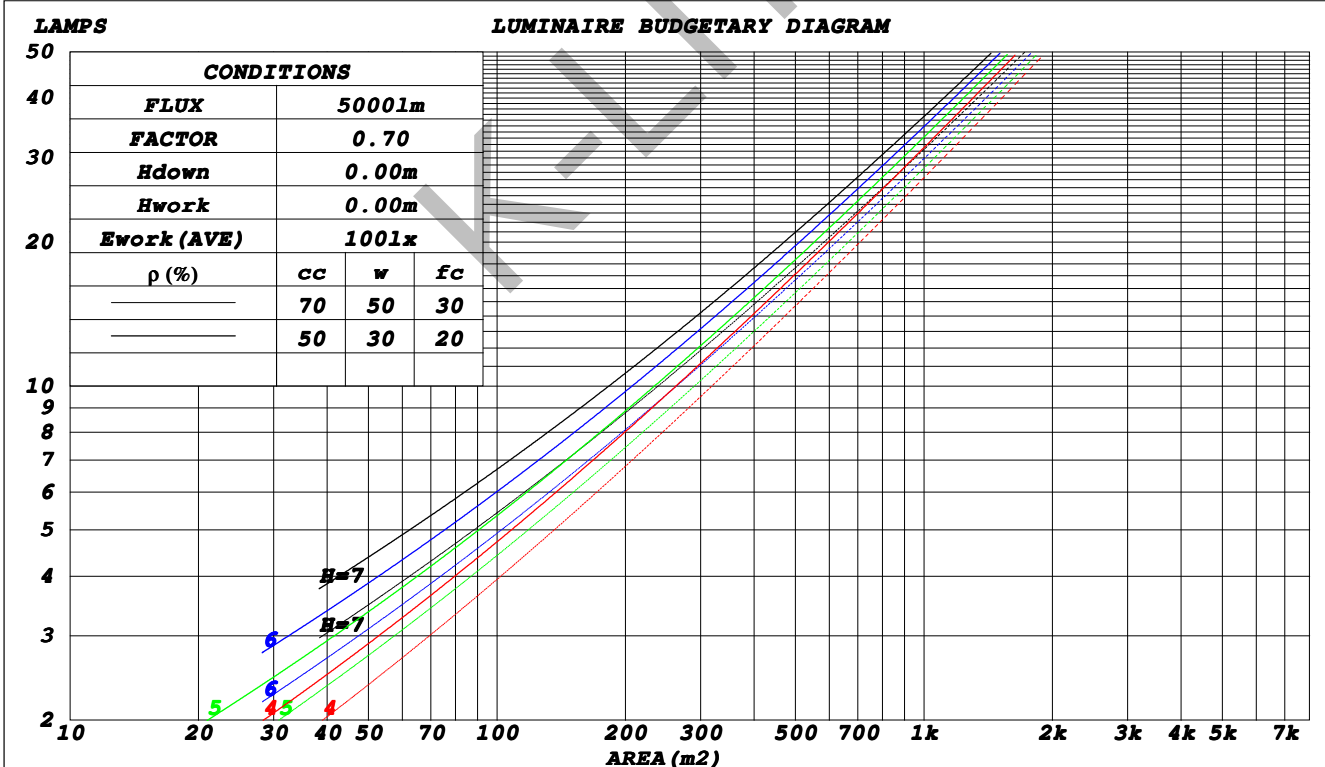
**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN**  
**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	20%			20%			20%			20%			20%			0
ρfc	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR: Room Cavity Ratio</b>															
	<b>Coefficients of Utilization (CU)</b>															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.05	1.01	.97	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.56	.53
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.51	.45	.58	.50	.44	.57	.49	.44	.55	.49	.44	.53	.48	.43	.41
7.0	.54	.46	.40	.53	.45	.40	.52	.45	.39	.50	.44	.39	.49	.43	.39	.37
8.0	.50	.41	.36	.49	.41	.36	.48	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.46	.38	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.32	.30
10.0	.42	.35	.29	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: AKRAM BASHA.H/BALAMURUGAN.  
 Test Date: 24 April 2020

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417  
 Humidity: 65.0%  
 Test Distance: 1.836m [K=1.0000]  
 Remarks:

**WEC AND CCEC**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients (WEC)</b>									
0.0																
1.0	.287	.163	.052	.280	.160	.051	.267	.153	.049	.255	.147	.047	.244	.141	.046	
2.0	.273	.149	.046	.267	.147	.045	.255	.142	.044	.244	.137	.043	.235	.133	.042	
3.0	.254	.135	.041	.249	.133	.040	.239	.129	.039	.229	.126	.039	.221	.122	.038	
4.0	.236	.123	.036	.231	.121	.036	.222	.118	.035	.214	.115	.035	.206	.112	.034	
5.0	.219	.112	.032	.215	.110	.032	.207	.108	.032	.200	.105	.031	.193	.103	.031	
6.0	.204	.102	.029	.201	.101	.029	.193	.099	.029	.187	.097	.029	.181	.095	.028	
7.0	.191	.094	.027	.188	.093	.027	.181	.092	.026	.175	.090	.026	.170	.088	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.168	.081	.023	.165	.081	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients (CCEC)</b>									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
3.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
4.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009	
5.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
6.0	.146	.090	.049	.126	.078	.042	.086	.054	.030	.050	.032	.018	.016	.010	.006	
7.0	.139	.082	.040	.120	.071	.035	.082	.050	.025	.048	.029	.015	.015	.010	.005	
8.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
9.0	.126	.069	.030	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
10.0	.120	.064	.026	.104	.055	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN.

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Test Distance: 1.836m [K=1.0000]

Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:

<b>ceiling/cavity</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>walls</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>working plane</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>	<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>x = 2H y = 2H</b>	<b>15.5</b>	<b>17.0</b>	<b>15.8</b>	<b>17.2</b>	<b>17.4</b>	<b>15.1</b>	<b>16.5</b>	<b>15.3</b>	<b>16.7</b>	<b>16.9</b>
<b>3H</b>	<b>16.8</b>	<b>18.1</b>	<b>17.1</b>	<b>18.3</b>	<b>18.6</b>	<b>16.2</b>	<b>17.6</b>	<b>16.5</b>	<b>17.8</b>	<b>18.0</b>
<b>4H</b>	<b>17.3</b>	<b>18.5</b>	<b>17.6</b>	<b>18.8</b>	<b>19.0</b>	<b>16.6</b>	<b>17.9</b>	<b>17.0</b>	<b>18.2</b>	<b>18.4</b>
<b>6H</b>	<b>17.6</b>	<b>18.8</b>	<b>17.9</b>	<b>19.0</b>	<b>19.3</b>	<b>16.9</b>	<b>18.1</b>	<b>17.2</b>	<b>18.4</b>	<b>18.7</b>
<b>8H</b>	<b>17.7</b>	<b>18.8</b>	<b>18.0</b>	<b>19.1</b>	<b>19.4</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>12H</b>	<b>17.7</b>	<b>18.8</b>	<b>18.0</b>	<b>19.1</b>	<b>19.4</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>4H 2H</b>	<b>16.0</b>	<b>17.2</b>	<b>16.3</b>	<b>17.5</b>	<b>17.7</b>	<b>15.6</b>	<b>16.9</b>	<b>15.9</b>	<b>17.1</b>	<b>17.4</b>
<b>3H</b>	<b>17.4</b>	<b>18.5</b>	<b>17.8</b>	<b>18.8</b>	<b>19.1</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>4H</b>	<b>18.0</b>	<b>19.0</b>	<b>18.4</b>	<b>19.3</b>	<b>19.7</b>	<b>17.5</b>	<b>18.5</b>	<b>17.9</b>	<b>18.8</b>	<b>19.1</b>
<b>6H</b>	<b>18.4</b>	<b>19.3</b>	<b>18.8</b>	<b>19.7</b>	<b>20.1</b>	<b>17.9</b>	<b>18.8</b>	<b>18.3</b>	<b>19.1</b>	<b>19.5</b>
<b>8H</b>	<b>18.6</b>	<b>19.4</b>	<b>19.0</b>	<b>19.8</b>	<b>20.2</b>	<b>18.0</b>	<b>18.8</b>	<b>18.4</b>	<b>19.2</b>	<b>19.5</b>
<b>12H</b>	<b>18.6</b>	<b>19.4</b>	<b>19.1</b>	<b>19.8</b>	<b>20.2</b>	<b>18.0</b>	<b>18.8</b>	<b>18.4</b>	<b>19.2</b>	<b>19.6</b>
<b>8H 4H</b>	<b>18.2</b>	<b>19.0</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.7</b>	<b>18.5</b>	<b>18.1</b>	<b>18.9</b>	<b>19.3</b>
<b>6H</b>	<b>18.7</b>	<b>19.4</b>	<b>19.2</b>	<b>19.8</b>	<b>20.2</b>	<b>18.2</b>	<b>18.9</b>	<b>18.6</b>	<b>19.3</b>	<b>19.7</b>
<b>8H</b>	<b>18.9</b>	<b>19.5</b>	<b>19.4</b>	<b>20.0</b>	<b>20.4</b>	<b>18.4</b>	<b>19.0</b>	<b>18.8</b>	<b>19.4</b>	<b>19.8</b>
<b>12H</b>	<b>19.0</b>	<b>19.6</b>	<b>19.5</b>	<b>20.0</b>	<b>20.5</b>	<b>18.4</b>	<b>19.0</b>	<b>18.9</b>	<b>19.4</b>	<b>19.9</b>
<b>12H 4H</b>	<b>18.2</b>	<b>18.9</b>	<b>18.6</b>	<b>19.3</b>	<b>19.7</b>	<b>17.7</b>	<b>18.5</b>	<b>18.1</b>	<b>18.9</b>	<b>19.3</b>
<b>6H</b>	<b>18.8</b>	<b>19.4</b>	<b>19.2</b>	<b>19.8</b>	<b>20.2</b>	<b>18.2</b>	<b>18.8</b>	<b>18.7</b>	<b>19.3</b>	<b>19.7</b>
<b>8H</b>	<b>19.0</b>	<b>19.5</b>	<b>19.4</b>	<b>19.9</b>	<b>20.4</b>	<b>18.4</b>	<b>18.9</b>	<b>18.9</b>	<b>19.4</b>	<b>19.9</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 0.2 / - 0.3</b>					<b>+ 0.2 / - 0.3</b>				
<b>1.5H</b>	<b>+ 0.1 / - 0.3</b>					<b>+ 0.1 / - 0.3</b>				
<b>2.0H</b>	<b>+ 0.3 / - 0.3</b>					<b>+ 0.3 / - 0.4</b>				

CIE Pub.117, 759.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.0)  
 Area: 0.1 m2

<b>C Range: 0 - 360DEG</b>	<b>γ Range: 0 - 90DEG</b>
<b>C Interval: 15.0DEG</b>	<b>γ Interval: 1.0DEG</b>
<b>Test Speed: HIGH</b>	<b>Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417</b>
<b>Temperature: 25.3DEG</b>	<b>Humidity: 65.0%</b>
<b>Operators: AKRAM BASHA.H/BALAMURUGAN.</b>	<b>Test Distance: 1.836m [K=1.0000]</b>
<b>Test Date: 24 April 2020</b>	<b>Remarks:</b>

**UTILIZATION FACTORS TABLE**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1281
MFR.: K-LITE	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	50	43	59	49	43	37
0.80	71	60	53	70	60	53	68	59	52	46
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	76	69	84	75	69	82	74	68	61
1.50	91	81	75	89	81	74	86	79	73	66
2.00	97	89	83	95	88	82	92	86	81	73
2.50	101	93	88	99	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHR NOM = 1.25			

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN.

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

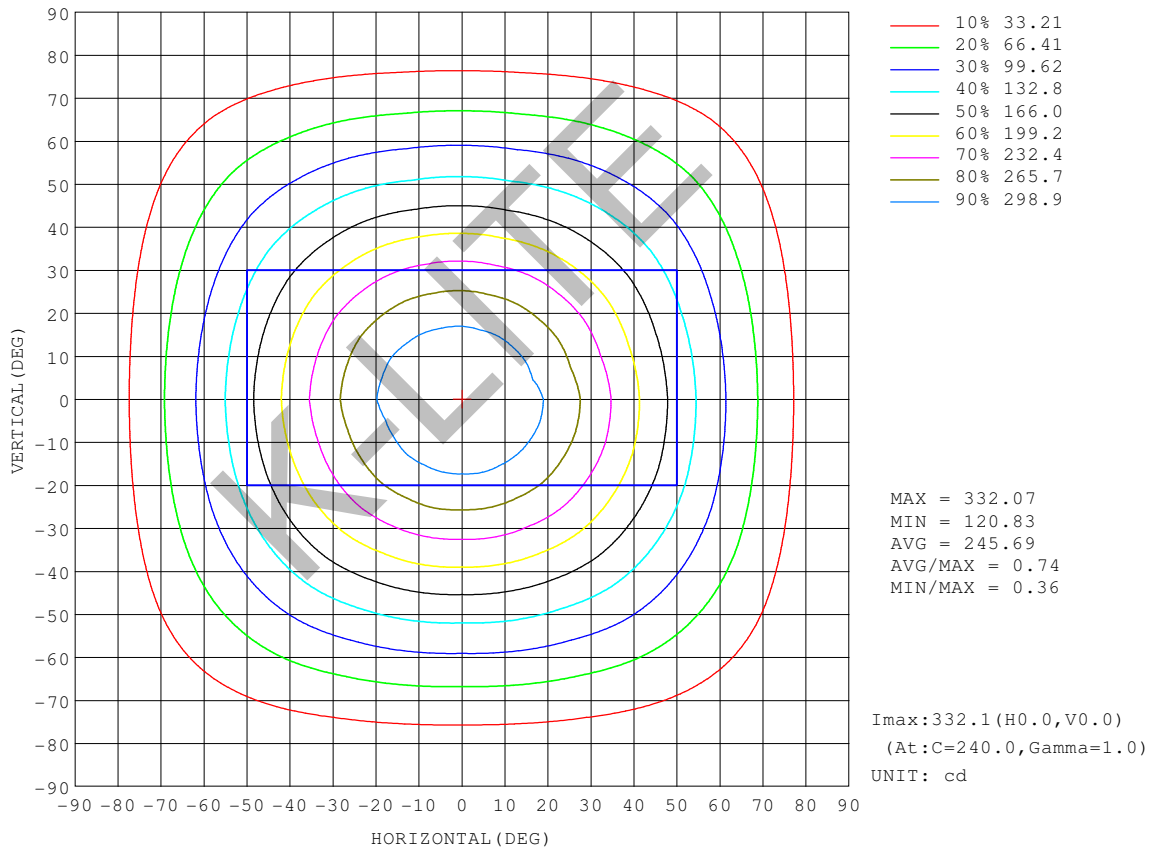
Test Distance: 1.836m [K=1.0000]

Remarks:



**ISOCANDELA DIAGRAM**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:



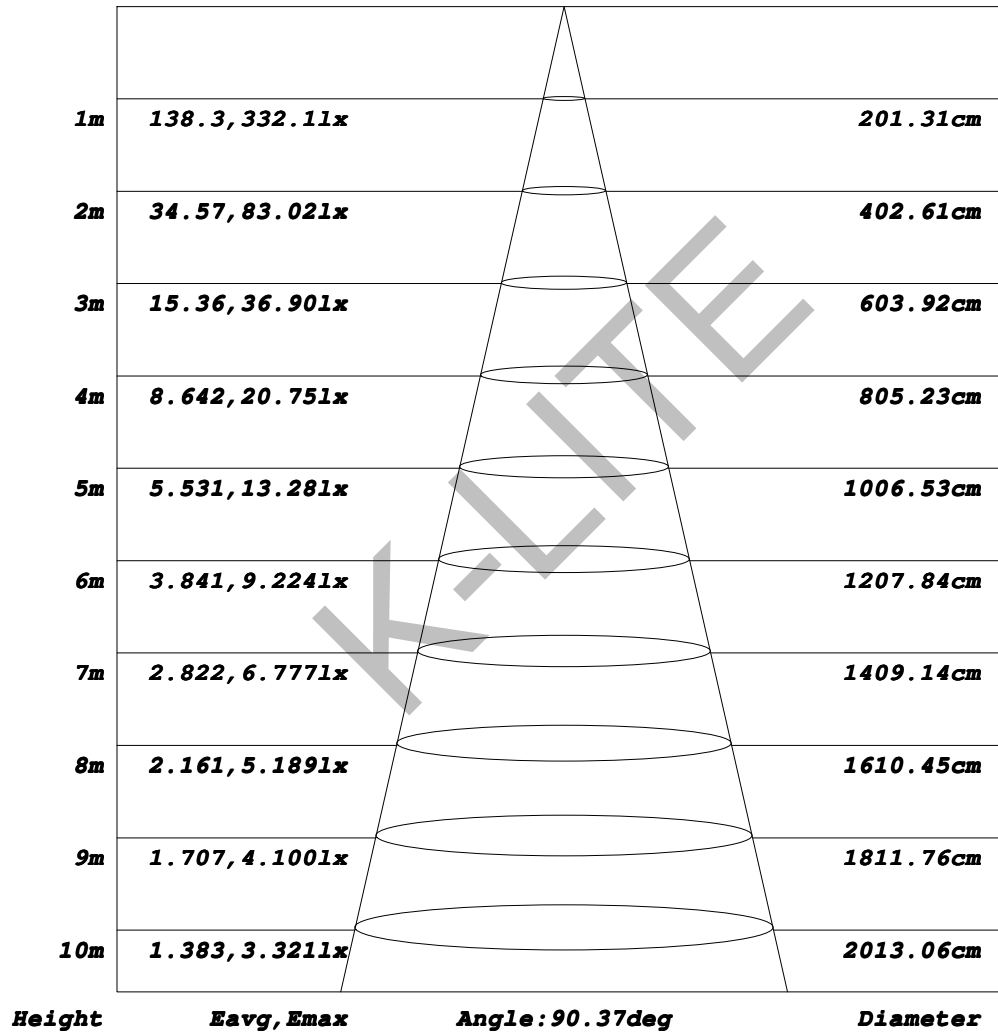
**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN.**  
**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**

**AAI Figure**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1281
MFR.: K-LITE	SUR.:	Shielding Angle:

**Flux out:465.8 lm**



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. STest Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

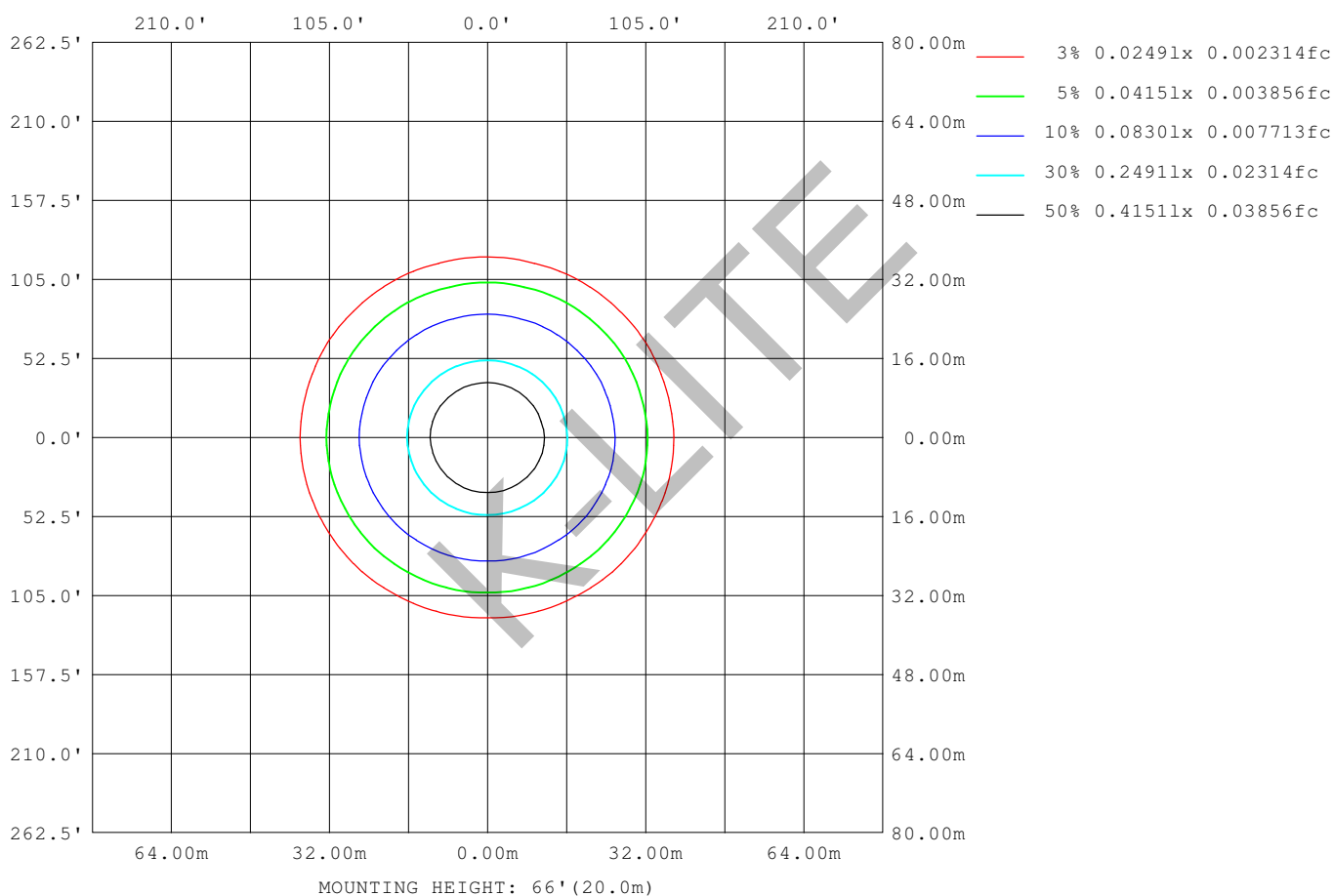
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Remarks:**

## ISOLUX DIAGRAM

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1281
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

**LED Avg.L Report**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:CW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1281
MFR.: K-LITE	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180 (65) av	1977
L_0~180 (75) av	1604
L_0~180 (85) av	1004
L_90~270 (65) av	1759
L_90~270 (75) av	1419
L_90~270 (85) av	945
L_45 (65) av	1874
L_45 (75) av	1519
L_45 (85) av	988

Standard: GB/T 29293-2012

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature:25.3DEG**

**Operators:AKRAM BASHA.H/BALAMURUGAN.**

**Test Date:24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

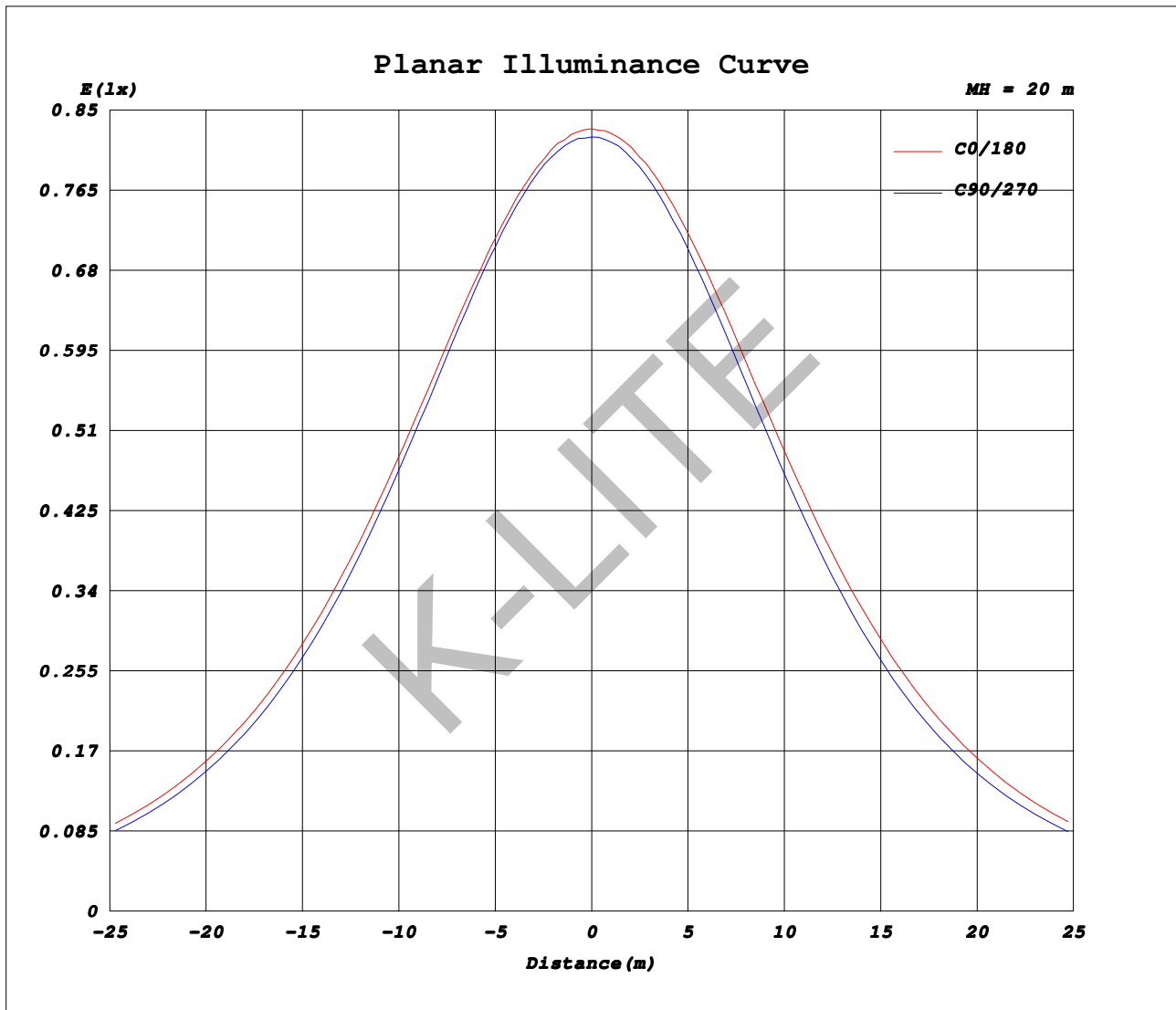
**Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity:65.0%**

**Test Distance:1.836m [K=1.0000]**

**Remarks:**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**







Light Output Ratio:	100.0%	
Luminaire Power:	12.91 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

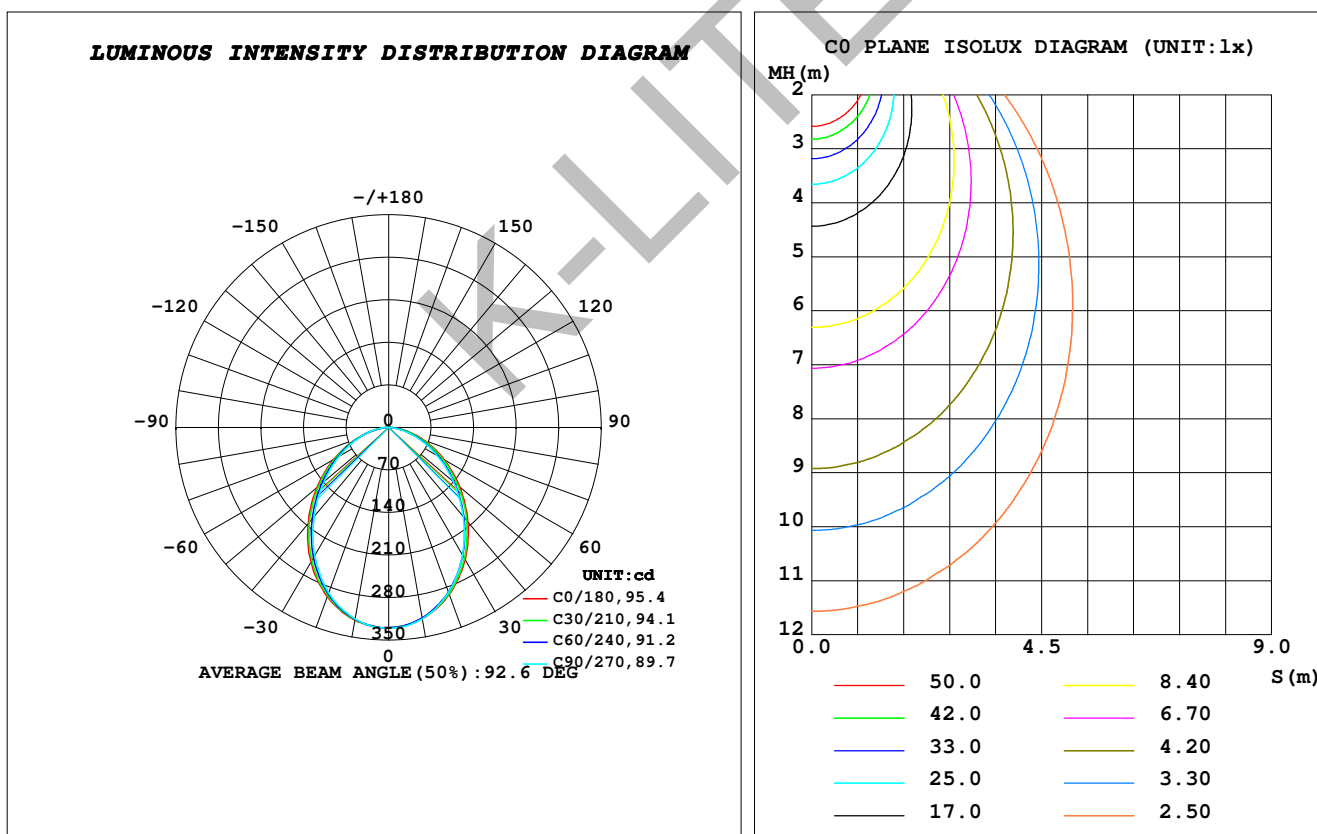
**C Range: 0 - 360DEG****C Interval: 10.0DEG****Test Speed: HIGH****Temperature: 25.3DEG****Operators: AKRAM BASHA.H/BALAMURUGAN.****Test Date: 24 April 2020****γ Range: 0 - 90DEG****γ Interval: 1.0DEG****Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417****Humidity: 65.0%****Test Distance: 1.836m [K=1.0000]****Remarks:**



### LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	KL-4763	Imax (cd)	330.7	S/MH (C0/180)	1.16
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.12
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	748.53	η UP, DN (C0-180)	0.0, 49.6
NOMINAL FLUX (lm)	748.531	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.4
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. STest Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

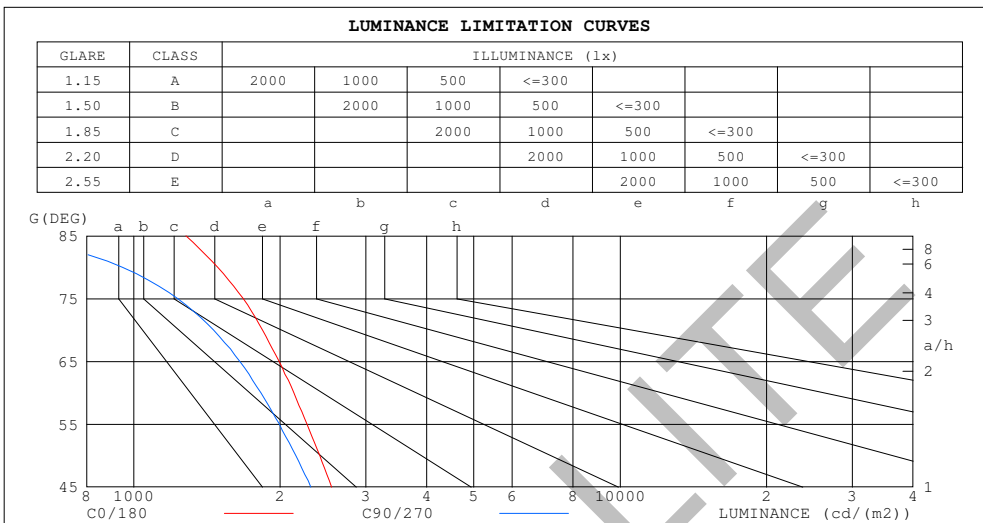
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	319.6	318.4	319.6	320.4	321.8	320.7	319.8	319.4	0- 10	30.99	30.99	4.14,4.14
20	292.3	289.0	288.9	292.1	296.0	292.9	289.7	290.4	10- 20	86.51	117.5	15.7,15.7
30	251.6	246.0	243.2	249.0	255.6	250.3	243.4	247.4	20- 30	124.6	242.1	32.3,32.3
40	202.7	195.8	190.9	198.1	206.3	199.3	190.8	197.4	30- 40	139.5	381.6	51,51
50	152.8	145.0	139.1	145.7	154.2	147.6	139.3	146.8	40- 50	132.4	514.0	68.7,68.7
60	105.1	97.85	91.71	96.58	104.0	99.56	93.35	100.5	50- 60	109.0	623.1	83.2,83.2
70	62.03	55.79	50.11	52.73	57.90	57.02	54.63	59.62	60- 70	76.01	699.1	93.4,93.4
80	25.47	20.73	16.53	16.72	19.59	21.68	22.41	25.21	70- 80	39.93	739.0	98.7,98.7
90	0.6390	0.0308	0.0078	0.0041	0.0033	0.1805	1.141	1.555	80- 90	9.519	748.5	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AKRAM BASHA.H/BALAMURUGAN.  
 Test Date:24 April 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417  
 Humidity:65.0%  
 Test Distance:1.836m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1282
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

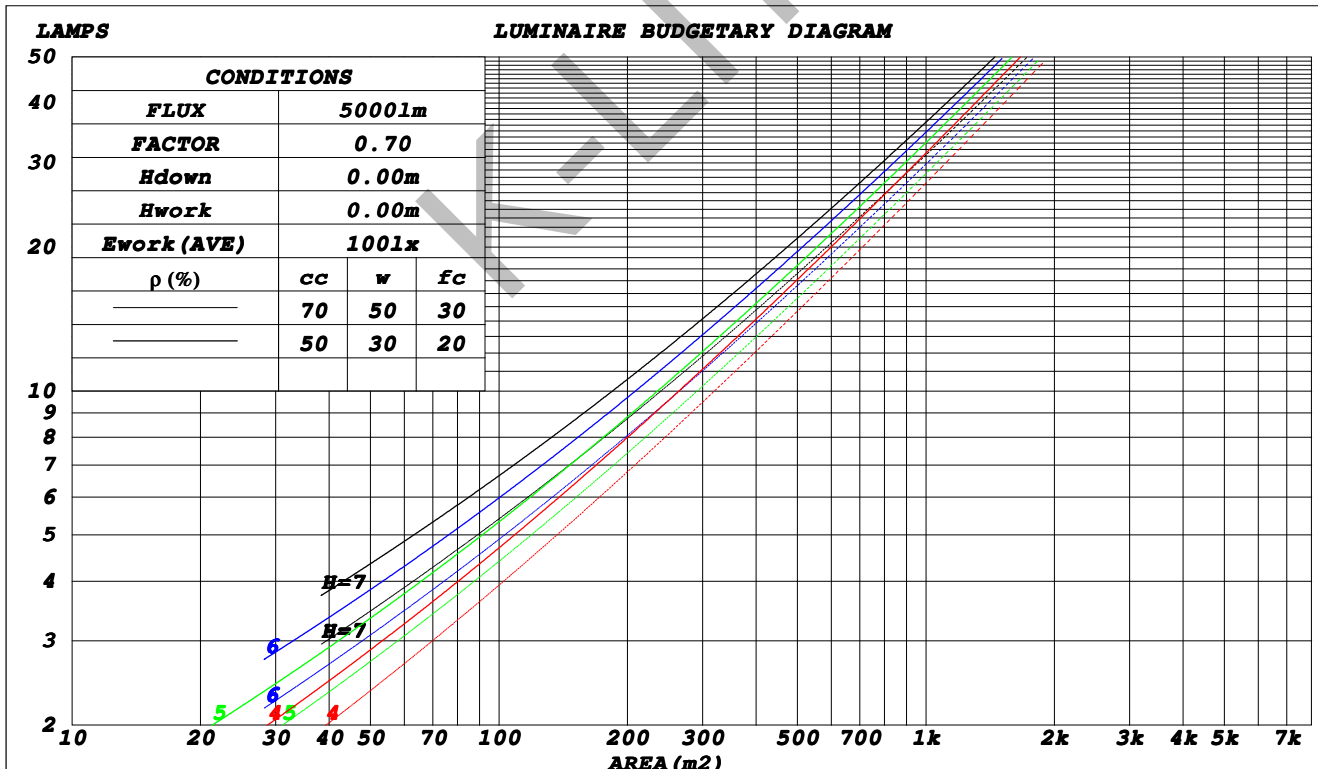
**Humidity: 65.0%**

**Remarks:**

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	20%			20%			20%			20%			20%			0
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.85
2.0	.93	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.68	.78	.71	.66	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.65	.59	.72	.64	.58	.69	.63	.57	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.65	.57	.51	.63	.56	.50	.61	.54	.50	.59	.53	.49	.47
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.44	.55	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.54	.46	.40	.52	.45	.40	.51	.44	.39	.49	.43	.39	.37
8.0	.50	.42	.36	.49	.41	.36	.48	.41	.36	.47	.40	.35	.45	.40	.35	.33
9.0	.46	.38	.33	.45	.38	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.30
10.0	.42	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.39	.33	.29	.28



C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

WEC AND CCEC

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients (WEC)</b>									
0.0																
1.0	.285	.162	.051	.278	.158	.050	.265	.152	.048	.253	.146	.047	.241	.140	.045	
2.0	.271	.148	.046	.265	.146	.045	.253	.141	.044	.243	.136	.043	.233	.132	.042	
3.0	.253	.135	.040	.247	.132	.040	.237	.129	.039	.228	.125	.038	.219	.121	.038	
4.0	.235	.122	.036	.230	.120	.036	.221	.117	.035	.213	.114	.034	.205	.111	.034	
5.0	.218	.111	.032	.214	.110	.032	.206	.107	.032	.199	.105	.031	.192	.103	.031	
6.0	.203	.102	.029	.200	.101	.029	.193	.099	.029	.186	.097	.028	.180	.095	.028	
7.0	.190	.094	.027	.187	.093	.027	.180	.091	.026	.175	.089	.026	.169	.088	.026	
8.0	.178	.087	.024	.175	.086	.024	.170	.085	.024	.164	.083	.024	.159	.082	.024	
9.0	.168	.081	.023	.165	.080	.023	.160	.079	.022	.155	.078	.022	.150	.076	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients (CCEC)</b>									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
3.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
4.0	.161	.114	.077	.138	.099	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
5.0	.153	.101	.060	.132	.087	.053	.090	.061	.037	.052	.036	.022	.017	.012	.007	
6.0	.146	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
7.0	.139	.082	.041	.119	.071	.035	.082	.049	.025	.048	.029	.015	.015	.010	.005	
8.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
9.0	.126	.069	.030	.108	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
10.0	.120	.064	.026	.103	.055	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.068	.036	.014	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN.

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Test Distance: 1.836m [K=1.0000]

Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1282
MFR.: K-LITE	SUR.:	Shielding Angle:

<b>ceiling/cavity</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>walls</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>working plane</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>	<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>x = 2H y = 2H</b>	<b>15.5</b>	<b>16.9</b>	<b>15.8</b>	<b>17.1</b>	<b>17.3</b>	<b>14.8</b>	<b>16.3</b>	<b>15.1</b>	<b>16.5</b>	<b>16.7</b>
<b>3H</b>	<b>16.8</b>	<b>18.1</b>	<b>17.1</b>	<b>18.4</b>	<b>18.6</b>	<b>15.9</b>	<b>17.3</b>	<b>16.2</b>	<b>17.5</b>	<b>17.7</b>
<b>4H</b>	<b>17.3</b>	<b>18.6</b>	<b>17.6</b>	<b>18.8</b>	<b>19.1</b>	<b>16.3</b>	<b>17.6</b>	<b>16.6</b>	<b>17.8</b>	<b>18.1</b>
<b>6H</b>	<b>17.7</b>	<b>18.9</b>	<b>18.0</b>	<b>19.2</b>	<b>19.4</b>	<b>16.5</b>	<b>17.7</b>	<b>16.9</b>	<b>18.0</b>	<b>18.3</b>
<b>8H</b>	<b>17.8</b>	<b>19.0</b>	<b>18.2</b>	<b>19.2</b>	<b>19.5</b>	<b>16.6</b>	<b>17.7</b>	<b>16.9</b>	<b>18.0</b>	<b>18.3</b>
<b>12H</b>	<b>17.9</b>	<b>19.0</b>	<b>18.2</b>	<b>19.3</b>	<b>19.6</b>	<b>16.5</b>	<b>17.7</b>	<b>16.9</b>	<b>17.9</b>	<b>18.2</b>
<b>4H 2H</b>	<b>15.9</b>	<b>17.2</b>	<b>16.2</b>	<b>17.4</b>	<b>17.7</b>	<b>15.4</b>	<b>16.7</b>	<b>15.7</b>	<b>16.9</b>	<b>17.2</b>
<b>3H</b>	<b>17.4</b>	<b>18.5</b>	<b>17.8</b>	<b>18.8</b>	<b>19.1</b>	<b>16.7</b>	<b>17.8</b>	<b>17.0</b>	<b>18.1</b>	<b>18.4</b>
<b>4H</b>	<b>18.1</b>	<b>19.1</b>	<b>18.4</b>	<b>19.4</b>	<b>19.7</b>	<b>17.2</b>	<b>18.2</b>	<b>17.6</b>	<b>18.5</b>	<b>18.8</b>
<b>6H</b>	<b>18.6</b>	<b>19.5</b>	<b>19.0</b>	<b>19.8</b>	<b>20.2</b>	<b>17.5</b>	<b>18.4</b>	<b>17.9</b>	<b>18.7</b>	<b>19.1</b>
<b>8H</b>	<b>18.7</b>	<b>19.6</b>	<b>19.1</b>	<b>19.9</b>	<b>20.3</b>	<b>17.6</b>	<b>18.4</b>	<b>18.0</b>	<b>18.7</b>	<b>19.1</b>
<b>12H</b>	<b>18.8</b>	<b>19.6</b>	<b>19.3</b>	<b>20.0</b>	<b>20.4</b>	<b>17.6</b>	<b>18.3</b>	<b>18.0</b>	<b>18.7</b>	<b>19.1</b>
<b>8H 4H</b>	<b>18.2</b>	<b>19.1</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.4</b>	<b>18.2</b>	<b>17.8</b>	<b>18.6</b>	<b>19.0</b>
<b>6H</b>	<b>18.8</b>	<b>19.5</b>	<b>19.3</b>	<b>19.9</b>	<b>20.4</b>	<b>17.8</b>	<b>18.5</b>	<b>18.3</b>	<b>18.9</b>	<b>19.3</b>
<b>8H</b>	<b>19.1</b>	<b>19.7</b>	<b>19.5</b>	<b>20.1</b>	<b>20.6</b>	<b>18.0</b>	<b>18.6</b>	<b>18.4</b>	<b>19.0</b>	<b>19.4</b>
<b>12H</b>	<b>19.3</b>	<b>19.8</b>	<b>19.7</b>	<b>20.2</b>	<b>20.7</b>	<b>18.0</b>	<b>18.5</b>	<b>18.5</b>	<b>19.0</b>	<b>19.4</b>
<b>12H 4H</b>	<b>18.2</b>	<b>19.0</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.4</b>	<b>18.2</b>	<b>17.9</b>	<b>18.6</b>	<b>19.0</b>
<b>6H</b>	<b>18.9</b>	<b>19.5</b>	<b>19.3</b>	<b>19.9</b>	<b>20.3</b>	<b>17.9</b>	<b>18.5</b>	<b>18.3</b>	<b>18.9</b>	<b>19.4</b>
<b>8H</b>	<b>19.1</b>	<b>19.6</b>	<b>19.6</b>	<b>20.1</b>	<b>20.6</b>	<b>18.0</b>	<b>18.5</b>	<b>18.5</b>	<b>19.0</b>	<b>19.5</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 0.2 / - 0.3</b>					<b>+ 0.3 / - 0.3</b>				
<b>1.5H</b>	<b>+ 0.1 / - 0.3</b>					<b>+ 0.1 / - 0.3</b>				
<b>2.0H</b>	<b>+ 0.3 / - 0.4</b>					<b>+ 0.3 / - 0.4</b>				

CIE Pub.117, 748.5 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.0)  
 Area: 0.1 m2

<b>C Range: 0 - 360DEG</b>	<b>γ Range: 0 - 90DEG</b>
<b>C Interval: 10.0DEG</b>	<b>γ Interval: 1.0DEG</b>
<b>Test Speed: HIGH</b>	<b>Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.417</b>
<b>Temperature:25.3DEG</b>	<b>Humidity:65.0%</b>
<b>Operators:AKRAM BASHA.H/BALAMURUGAN.</b>	<b>Test Distance:1.836m [K=1.0000]</b>
<b>Test Date:24 April 2020</b>	<b>Remarks:</b>

**UTILIZATION FACTORS TABLE**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	44	60	50	44	59	50	43	37
0.80	71	60	53	70	60	53	68	59	53	46
1.00	79	69	62	78	68	62	76	70	61	55
1.25	86	76	70	85	76	69	82	74	69	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	108	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHR NOM = 1.25			

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. ST

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

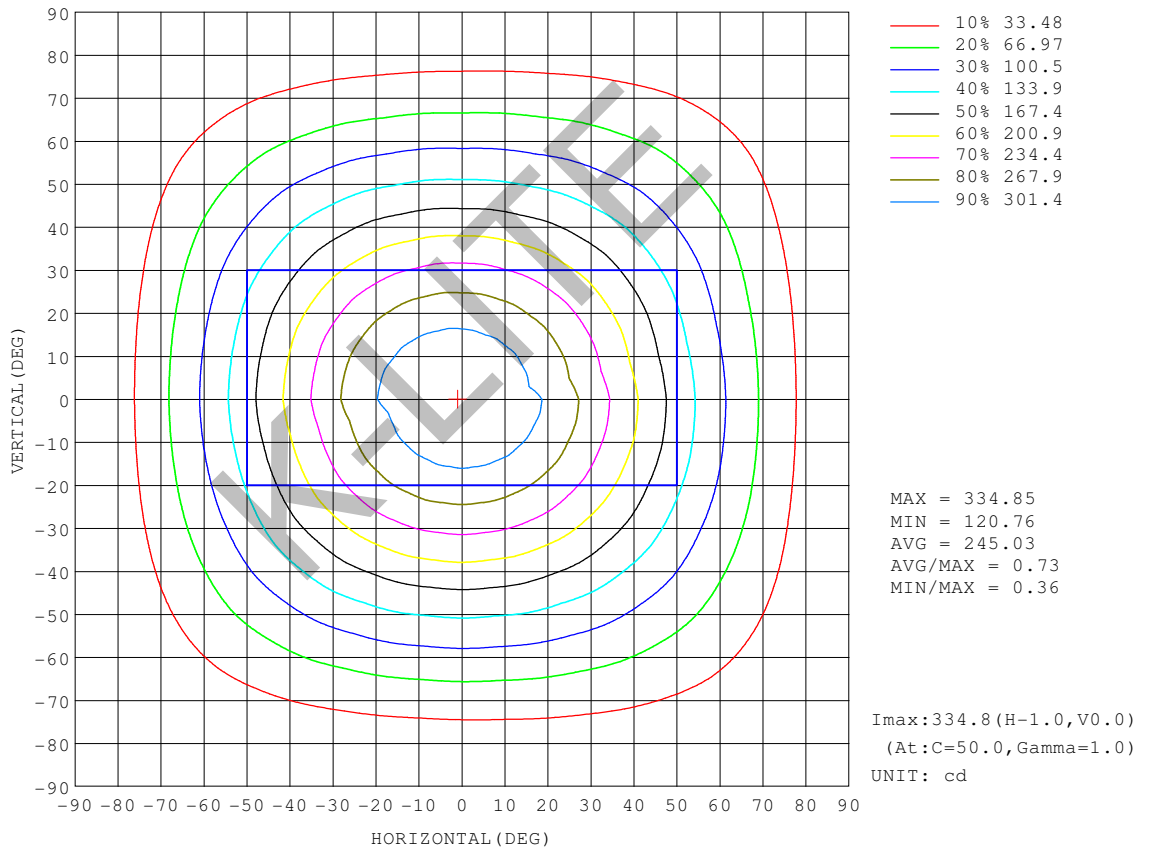
Humidity: 65.0%

Test Distance: 1.836m [K=1.0000]

Remarks:

**ISOCANDELA DIAGRAM**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**  
**C Interval: 10.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN.**  
**Test Date: 24 April 2020**

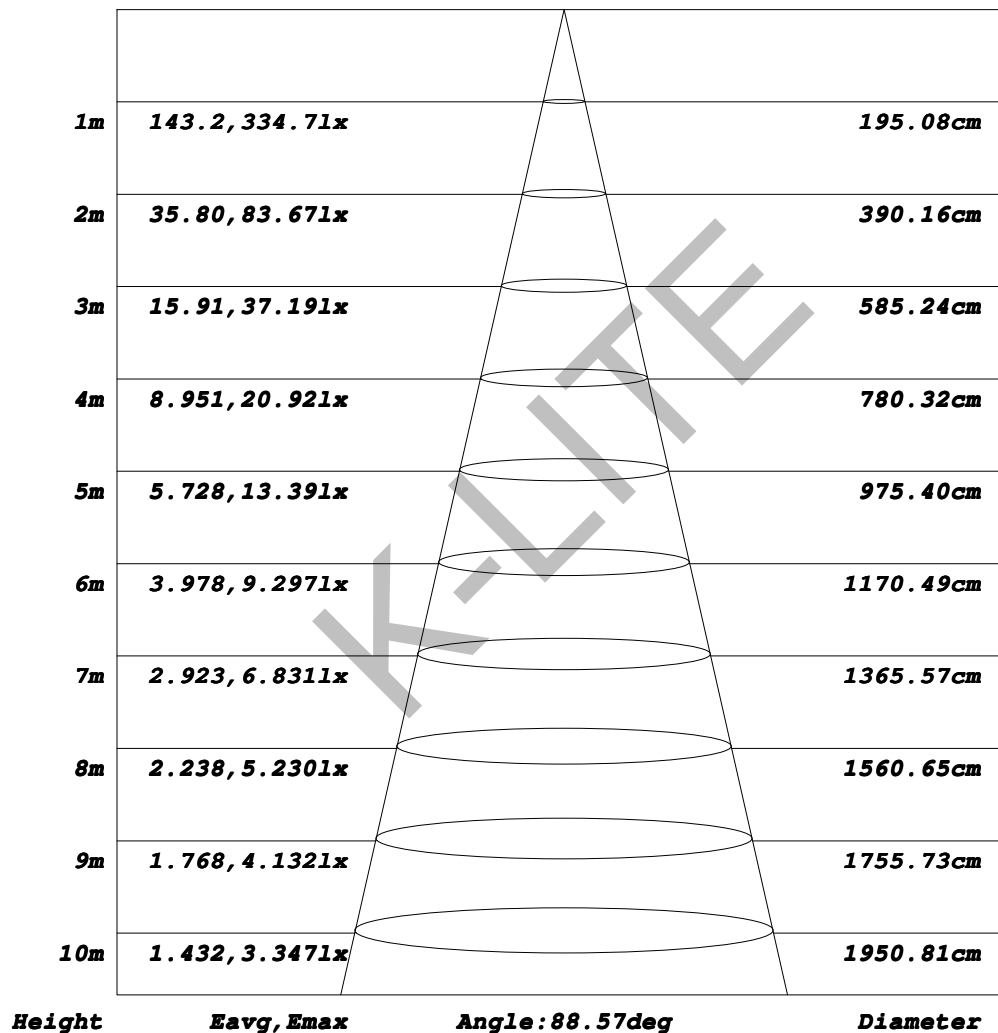
**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**



**AAI Figure**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1282
MFR.: K-LITE	SUR.:	Shielding Angle:

**Flux out:449.9 lm**



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

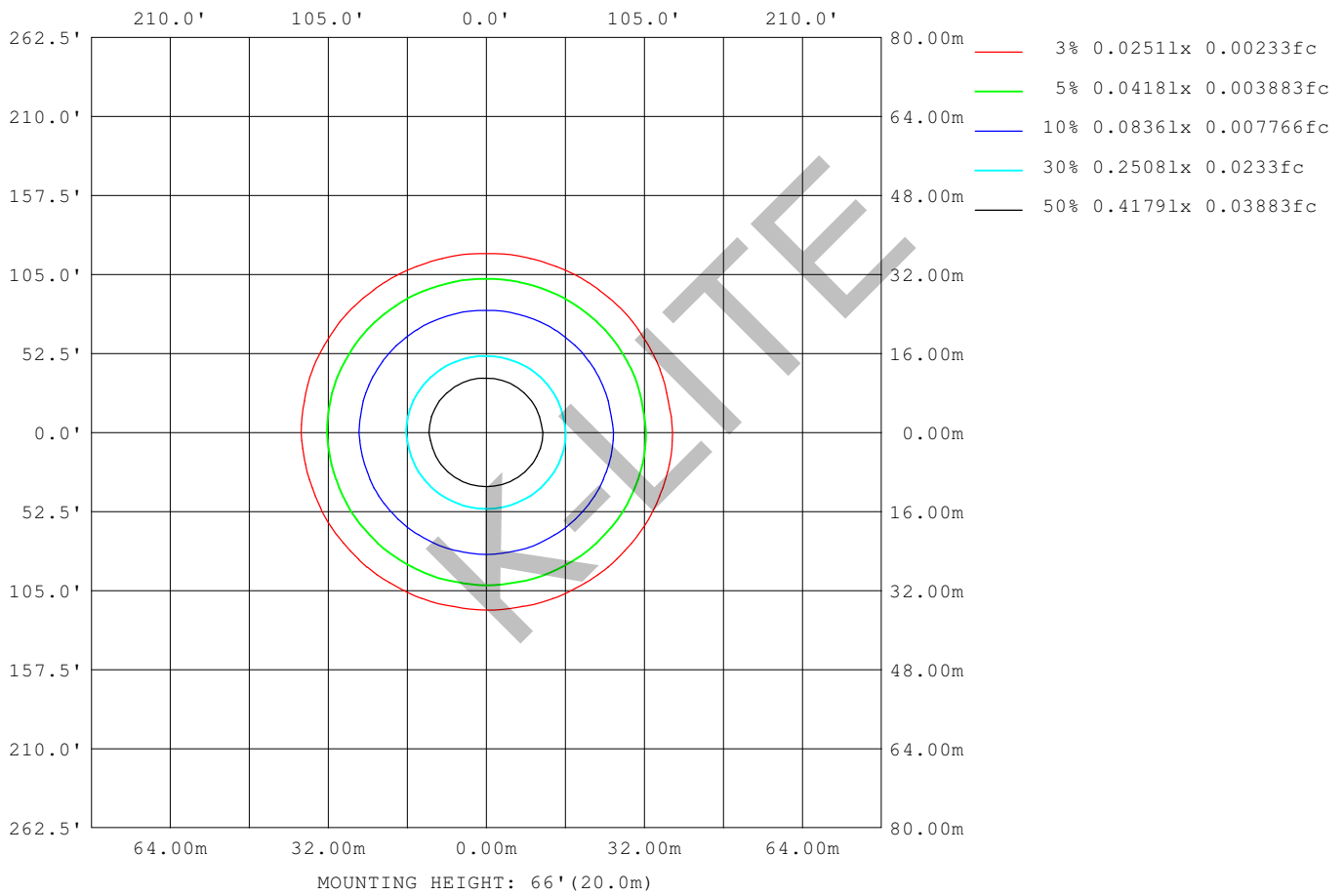
**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

**ISOLUX DIAGRAM**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**  
**C Interval: 10.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN**  
**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**

**LED Avg.L Report**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.:1282
MFR.: K-LITE	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180 (65) av	1930
L_0~180 (75) av	1550
L_0~180 (85) av	951
L_90~270 (65) av	1695
L_90~270 (75) av	1345
L_90~270 (85) av	835
L_45 (65) av	1815
L_45 (75) av	1451
L_45 (85) av	899

Standard: GB/T 29293-2012

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature:25.3DEG**

**Operators:AKRAM BASHA.H/BALAMURUGAN.**

**Test Date:24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

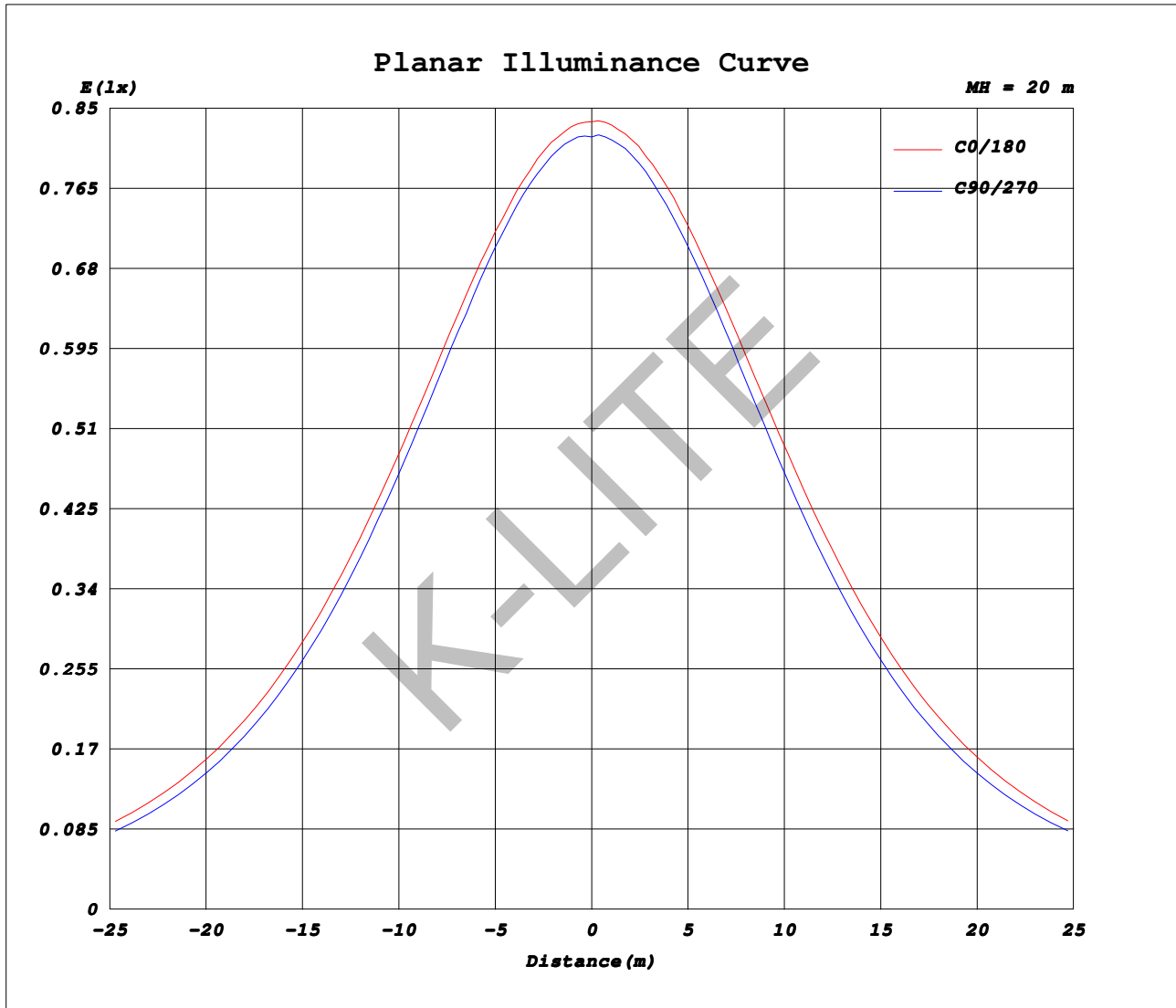
**Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity:65.0%**

**Test Distance:1.836m [K=1.0000]**

**Remarks:**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330
5	327	326	327	327	326	327	326	326	327	328	326	327	327	327	328	327	327	328	328
10	320	319	319	320	318	319	318	318	318	320	318	319	319	320	321	321	320	322	322
15	308	307	308	307	306	306	305	305	305	307	305	307	307	308	309	309	309	311	311
20	292	292	291	291	289	289	288	287	287	289	288	288	289	292	293	294	295	296	296
25	273	273	271	271	269	268	267	266	266	267	266	268	269	271	272	275	275	277	278
30	252	251	250	249	246	246	244	243	241	243	242	244	246	248	250	252	253	256	256
35	228	227	226	225	222	221	218	218	216	217	216	219	220	223	225	228	229	231	232
40	203	202	201	199	196	195	192	191	190	191	190	193	194	197	199	202	203	206	206
45	178	177	175	174	171	170	166	166	164	164	164	166	167	171	173	176	177	180	180
50	153	152	150	149	146	144	141	140	138	139	138	140	141	145	147	150	151	154	154
55	128	128	126	125	122	120	117	116	114	115	114	116	116	120	121	125	126	128	129
60	105	105	103	102	98.6	97.1	94.3	93.4	91.2	91.7	90.7	92.5	93.0	96.0	97.1	100	101	103	104
65	82.9	82.6	80.7	79.7	76.9	75.4	72.9	71.9	69.9	70.1	69.3	70.6	71.0	73.4	74.4	76.8	77.6	79.9	80.3
70	62.0	61.5	59.8	58.8	56.5	55.1	53.1	51.9	50.3	50.1	49.5	50.3	50.6	52.3	53.2	55.0	55.8	57.5	57.9
75	42.8	42.1	40.8	39.7	37.8	36.5	34.7	33.7	32.4	32.0	31.4	31.8	31.9	33.0	33.7	35.0	35.7	37.0	37.4
80	25.5	24.8	23.6	22.8	21.2	20.2	18.8	18.0	16.9	16.5	15.9	16.0	15.9	16.6	16.9	17.8	18.3	19.3	19.6
85	11.0	10.4	9.62	8.94	7.94	7.19	6.36	5.66	4.95	4.54	4.09	3.92	3.73	3.88	3.94	4.33	4.67	5.31	5.57
90	0.64	0.42	0.20	0.08	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG      γ Range: 0 - 90DEG  
 C Interval: 10.0DEG      γ Interval: 1.0DEG  
 Test Speed: HIGH      Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417  
 Temperature: 25.3DEG      Humidity: 65.0%  
 Operators: AKRAM BASHA.H/BALAMURUGAN      Test Distance: 1.836m [K=1.0000]  
 Test Date: 24 April 2020      Remarks:

**LUMINOUS DISTRIBUTION INTENSITY DATA**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 506	SERIAL No.: 1282
MFR.: K-LITE	SUR.:	Shielding Angle:

Table--2

UNIT: cd

C (DEG) \ γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330		
5	327	328	328	328	327	327	327	328	328	327	327	327	327	327	326	327	327		
10	321	322	321	321	320	320	319	319	320	319	319	319	319	320	319	319	318		
15	310	311	310	309	308	308	307	307	307	306	306	306	307	307	306	307	307		
20	295	296	295	294	292	292	290	290	290	289	289	290	290	291	291	291	291		
25	276	277	275	274	272	271	269	269	268	268	268	269	269	271	271	272	272		
30	255	255	253	252	249	248	245	245	243	244	243	245	246	249	249	250	250		
35	230	231	229	227	224	222	219	219	218	218	218	220	222	224	225	227	227		
40	205	206	203	201	198	196	192	192	191	191	192	195	196	199	200	202	202		
45	179	179	177	175	172	170	166	166	165	165	166	169	170	173	174	177	177		
50	153	154	151	149	146	144	141	141	139	140	141	144	145	149	150	151	152		
55	128	128	126	125	121	120	117	117	116	117	117	120	121	125	126	128	128		
60	103	104	102	101	98.2	97.0	94.5	94.4	93.4	94.5	95.0	97.6	98.9	102	103	105	104		
65	79.9	80.7	79.0	78.5	76.5	75.8	73.8	73.8	73.1	74.1	74.6	76.9	77.9	80.6	81.2	82.9	82.3		
70	57.8	58.7	57.8	57.7	56.4	56.0	54.7	54.8	54.6	55.2	55.9	57.7	58.7	60.6	61.0	62.2	61.7		
75	37.8	38.6	38.4	38.6	38.0	37.9	37.3	37.5	37.6	38.2	38.7	40.1	40.8	42.1	42.5	43.1	42.8		
80	20.1	21.0	21.2	21.7	21.7	22.0	21.8	22.3	22.4	23.0	23.4	24.3	24.8	25.6	25.7	26.0	25.5		
85	6.24	6.96	7.48	8.12	8.48	9.03	9.24	9.76	10.01	10.4	10.7	11.2	11.4	11.8	11.7	11.7	11.2		
90	0.00	0.01	0.01	0.07	0.29	0.47	0.67	0.91	1.14	1.32	1.48	1.59	1.58	1.53	1.34	1.08	0.75		

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**



Light Output Ratio:	100.0%	
Luminaire Power:	13.26 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

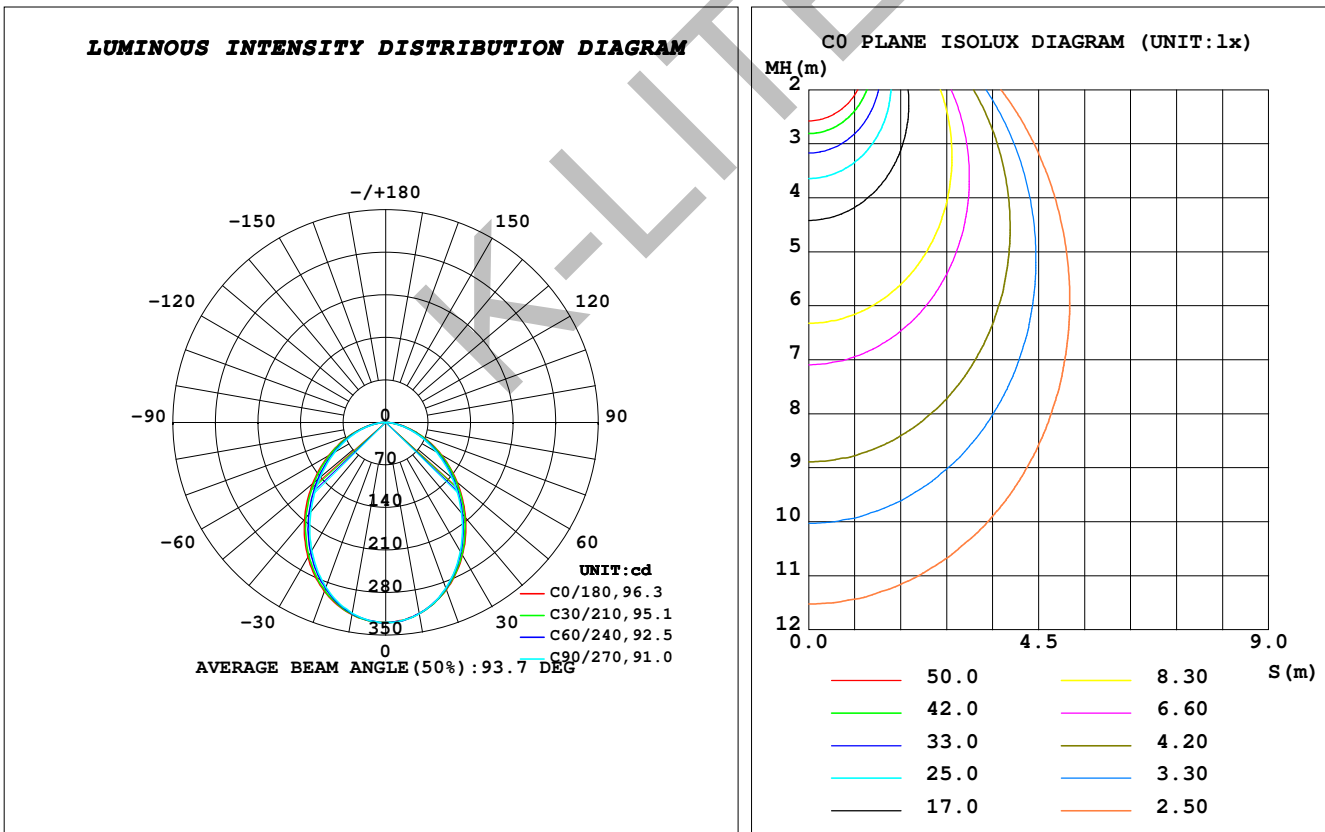
**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

### LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	KL-4764	Imax (cd)	329.7	S/MH (C0/180)	1.16
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.12
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	759.44	η UP, DN (C0-180)	0.0, 50.0
NOMINAL FLUX (lm)	759.438	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 50.0
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:



**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	319.3	319.7	319.2	320.6	321.1	319.6	318.6	317.9	0- 10	30.96	30.96	4.08,4.08
20	292.5	291.7	290.0	293.9	295.6	291.8	288.2	289.1	10- 20	86.55	117.5	15.5,15.5
30	252.5	249.9	245.9	252.2	255.9	249.6	243.6	247.2	20- 30	125.0	242.5	31.9,31.9
40	204.3	200.4	194.5	202.7	207.8	199.9	192.0	197.4	30- 40	140.7	383.2	50.5,50.5
50	153.8	149.5	143.1	151.1	156.8	149.1	141.4	146.9	40- 50	134.4	517.6	68.2,68.2
60	105.3	101.5	95.64	102.7	107.8	101.5	95.43	99.93	50- 60	111.5	629.1	82.8,82.8
70	60.73	57.79	54.10	58.65	62.37	58.96	55.33	58.18	60- 70	78.41	707.5	93.2,93.2
80	23.14	21.38	19.75	21.98	23.80	23.50	22.21	22.93	70- 80	41.73	749.2	98.7,98.7
90	0.0247	0.0227	0.0288	0.0430	0.0401	0.5857	1.003	0.5459	80- 90	10.21	759.4	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature:25.3DEG**

**Operators:AKRAM BASHA.H/BALAMURUGAN**

**Test Date:24 April 2020**

**$\gamma$  Range: 0 - 90DEG**

**$\gamma$  Interval: 1.0DEG**

**Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

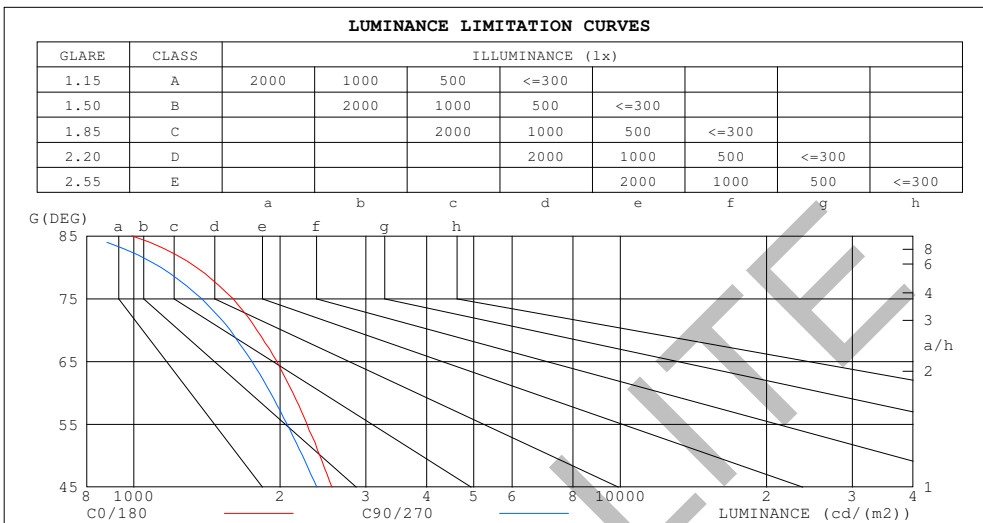
**Humidity:65.0%**

**Test Distance:1.836m [K=1.0000]**

**Remarks:**

**LUMINANCE LIMITATION CURVES**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	991	793
80	1344	1135
75	1600	1378
70	1791	1579
65	1970	1749
60	2124	1910
55	2270	2067
50	2414	2222
45	2554	2379

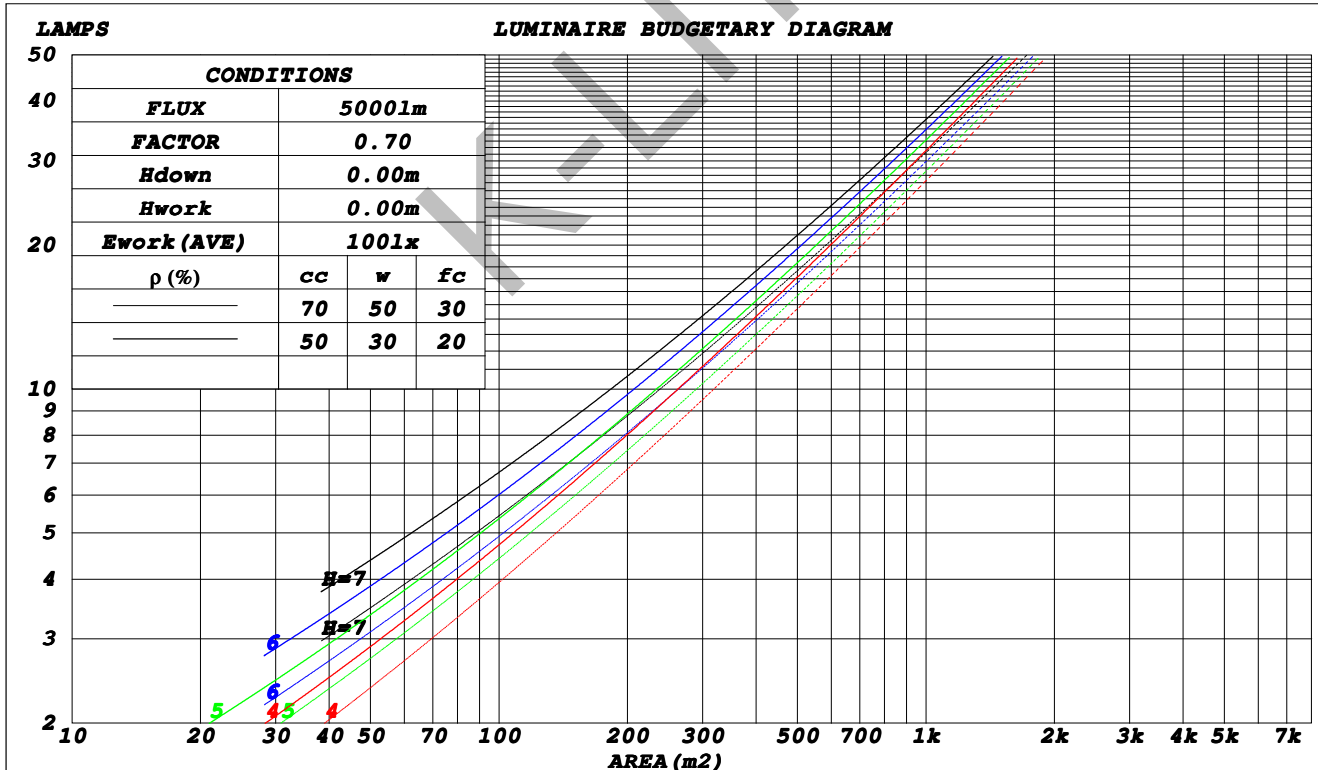
**C Range: 0 - 360DEG**  
**C Interval: 15.0DEG**  
**Test Speed: HIGH**  
**Temperature: 25.3DEG**  
**Operators: AKRAM BASHA.H/BALAMURUGAN**  
**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**  
**γ Interval: 1.0DEG**  
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**  
**Humidity: 65.0%**  
**Test Distance: 1.836m [K=1.0000]**  
**Remarks:**

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR: Room Cavity Ratio</b>															
	<b>Coefficients of Utilization (CU)</b>															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.05	1.01	.97	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.73	.65	.58	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.56	.53
5.0	.66	.57	.51	.64	.56	.50	.62	.55	.50	.60	.54	.49	.59	.53	.49	.47
6.0	.59	.51	.45	.58	.50	.44	.57	.49	.44	.55	.49	.44	.53	.48	.43	.41
7.0	.54	.46	.40	.53	.45	.40	.52	.45	.39	.50	.44	.39	.49	.43	.39	.37
8.0	.50	.41	.36	.49	.41	.36	.48	.40	.35	.46	.40	.35	.45	.39	.35	.33
9.0	.46	.38	.32	.45	.37	.32	.44	.37	.32	.43	.36	.32	.42	.36	.32	.30
10.0	.42	.35	.29	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27



C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

**WEC AND CCEC**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients (WEC)</b>									
0.0																
1.0	.287	.163	.052	.280	.160	.051	.267	.153	.049	.255	.147	.047	.244	.141	.046	
2.0	.273	.149	.046	.267	.147	.045	.255	.142	.044	.244	.137	.043	.235	.133	.042	
3.0	.254	.135	.041	.249	.133	.040	.239	.129	.039	.229	.126	.039	.221	.122	.038	
4.0	.236	.123	.036	.231	.121	.036	.222	.118	.035	.214	.115	.035	.206	.112	.034	
5.0	.219	.112	.032	.215	.110	.032	.207	.108	.032	.200	.105	.031	.193	.103	.031	
6.0	.204	.102	.029	.201	.101	.029	.193	.099	.029	.187	.097	.029	.181	.095	.028	
7.0	.191	.094	.027	.188	.093	.027	.181	.092	.026	.175	.090	.026	.170	.088	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.084	.024	.160	.082	.024	
9.0	.168	.081	.023	.165	.081	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients (CCEC)</b>									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
3.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
4.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009	
5.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
6.0	.146	.090	.049	.126	.078	.042	.086	.054	.030	.050	.032	.018	.016	.010	.006	
7.0	.139	.082	.040	.120	.071	.035	.082	.050	.025	.048	.029	.015	.015	.010	.005	
8.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
9.0	.126	.069	.030	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
10.0	.120	.064	.026	.104	.055	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.036	.014	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN.

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Test Distance: 1.836m [K=1.0000]

Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm										
NAME: MORA					TYPE: BOLLARDS			WEIGHT:		
SPEC.: CW, OSRAM 3030					DIM.: 385 x 60 x 1006			SERIAL No.: 1283		
MFR.: K-LITE					SUR.:			Shielding Angle:		
<b>ceiling/cavity</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>walls</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>working plane</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>	<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>x = 2H y = 2H</b>	<b>15.5</b>	<b>17.0</b>	<b>15.8</b>	<b>17.2</b>	<b>17.4</b>	<b>15.1</b>	<b>16.5</b>	<b>15.3</b>	<b>16.7</b>	<b>16.9</b>
<b>3H</b>	<b>16.8</b>	<b>18.1</b>	<b>17.1</b>	<b>18.3</b>	<b>18.6</b>	<b>16.2</b>	<b>17.6</b>	<b>16.5</b>	<b>17.8</b>	<b>18.0</b>
<b>4H</b>	<b>17.3</b>	<b>18.5</b>	<b>17.6</b>	<b>18.8</b>	<b>19.0</b>	<b>16.6</b>	<b>17.9</b>	<b>17.0</b>	<b>18.2</b>	<b>18.4</b>
<b>6H</b>	<b>17.6</b>	<b>18.8</b>	<b>17.9</b>	<b>19.0</b>	<b>19.3</b>	<b>16.9</b>	<b>18.1</b>	<b>17.2</b>	<b>18.4</b>	<b>18.7</b>
<b>8H</b>	<b>17.7</b>	<b>18.8</b>	<b>18.0</b>	<b>19.1</b>	<b>19.4</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>12H</b>	<b>17.7</b>	<b>18.8</b>	<b>18.0</b>	<b>19.1</b>	<b>19.4</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>4H 2H</b>	<b>16.0</b>	<b>17.2</b>	<b>16.3</b>	<b>17.5</b>	<b>17.7</b>	<b>15.6</b>	<b>16.9</b>	<b>15.9</b>	<b>17.1</b>	<b>17.4</b>
<b>3H</b>	<b>17.4</b>	<b>18.5</b>	<b>17.8</b>	<b>18.8</b>	<b>19.1</b>	<b>17.0</b>	<b>18.1</b>	<b>17.3</b>	<b>18.4</b>	<b>18.7</b>
<b>4H</b>	<b>18.0</b>	<b>19.0</b>	<b>18.4</b>	<b>19.3</b>	<b>19.7</b>	<b>17.5</b>	<b>18.5</b>	<b>17.9</b>	<b>18.8</b>	<b>19.1</b>
<b>6H</b>	<b>18.4</b>	<b>19.3</b>	<b>18.8</b>	<b>19.7</b>	<b>20.1</b>	<b>17.9</b>	<b>18.8</b>	<b>18.3</b>	<b>19.1</b>	<b>19.5</b>
<b>8H</b>	<b>18.6</b>	<b>19.4</b>	<b>19.0</b>	<b>19.8</b>	<b>20.2</b>	<b>18.0</b>	<b>18.8</b>	<b>18.4</b>	<b>19.2</b>	<b>19.5</b>
<b>12H</b>	<b>18.6</b>	<b>19.4</b>	<b>19.1</b>	<b>19.8</b>	<b>20.2</b>	<b>18.0</b>	<b>18.8</b>	<b>18.4</b>	<b>19.2</b>	<b>19.6</b>
<b>8H 4H</b>	<b>18.2</b>	<b>19.0</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.7</b>	<b>18.5</b>	<b>18.1</b>	<b>18.9</b>	<b>19.3</b>
<b>6H</b>	<b>18.7</b>	<b>19.4</b>	<b>19.2</b>	<b>19.8</b>	<b>20.2</b>	<b>18.2</b>	<b>18.9</b>	<b>18.6</b>	<b>19.3</b>	<b>19.7</b>
<b>8H</b>	<b>18.9</b>	<b>19.5</b>	<b>19.4</b>	<b>20.0</b>	<b>20.4</b>	<b>18.4</b>	<b>19.0</b>	<b>18.8</b>	<b>19.4</b>	<b>19.8</b>
<b>12H</b>	<b>19.0</b>	<b>19.6</b>	<b>19.5</b>	<b>20.0</b>	<b>20.5</b>	<b>18.4</b>	<b>19.0</b>	<b>18.9</b>	<b>19.4</b>	<b>19.9</b>
<b>12H 4H</b>	<b>18.2</b>	<b>18.9</b>	<b>18.6</b>	<b>19.3</b>	<b>19.7</b>	<b>17.7</b>	<b>18.5</b>	<b>18.1</b>	<b>18.9</b>	<b>19.3</b>
<b>6H</b>	<b>18.8</b>	<b>19.4</b>	<b>19.2</b>	<b>19.8</b>	<b>20.2</b>	<b>18.2</b>	<b>18.8</b>	<b>18.7</b>	<b>19.3</b>	<b>19.7</b>
<b>8H</b>	<b>19.0</b>	<b>19.5</b>	<b>19.4</b>	<b>19.9</b>	<b>20.4</b>	<b>18.4</b>	<b>18.9</b>	<b>18.9</b>	<b>19.4</b>	<b>19.9</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 0.2 / - 0.3</b>					<b>+ 0.2 / - 0.3</b>				
<b>1.5H</b>	<b>+ 0.1 / - 0.3</b>					<b>+ 0.1 / - 0.3</b>				
<b>2.0H</b>	<b>+ 0.3 / - 0.3</b>					<b>+ 0.3 / - 0.4</b>				

CIE Pub.117, 759.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.0)  
Area: 0.1 m2

<b>C Range: 0 - 360DEG</b>	<b>γ Range: 0 - 90DEG</b>
<b>C Interval: 15.0DEG</b>	<b>γ Interval: 1.0DEG</b>
<b>Test Speed: HIGH</b>	<b>Test System: EVERFINE GO-R5000_V2 SYSTEM V2.00.417</b>
<b>Temperature: 25.3DEG</b>	<b>Humidity: 65.0%</b>
<b>Operators: AKRAM BASHA.H/BALAMURUGAN.</b>	<b>Test Distance: 1.836m [K=1.0000]</b>
<b>Test Date: 24 April 2020</b>	<b>Remarks:</b>

**UTILIZATION FACTORS TABLE**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	50	43	59	49	43	37
0.80	71	60	53	70	60	53	68	59	52	46
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	76	69	84	75	69	82	74	68	61
1.50	91	81	75	89	81	74	86	79	73	66
2.00	97	89	83	95	88	82	92	86	81	73
2.50	101	93	88	99	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHR NOM = 1.25			

C Range: 0 - 360DEG

C Interval: 15.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. STest Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

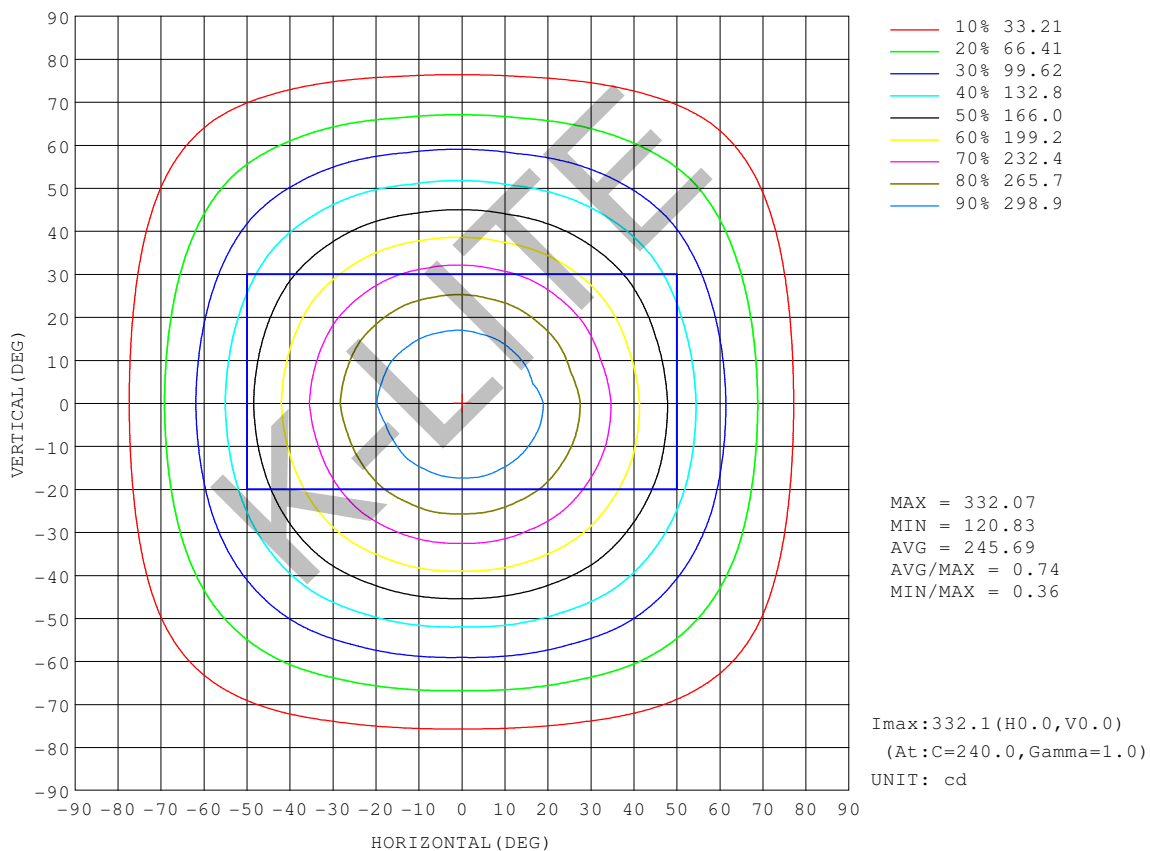
Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

### ISOCANDELA DIAGRAM

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. STest Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

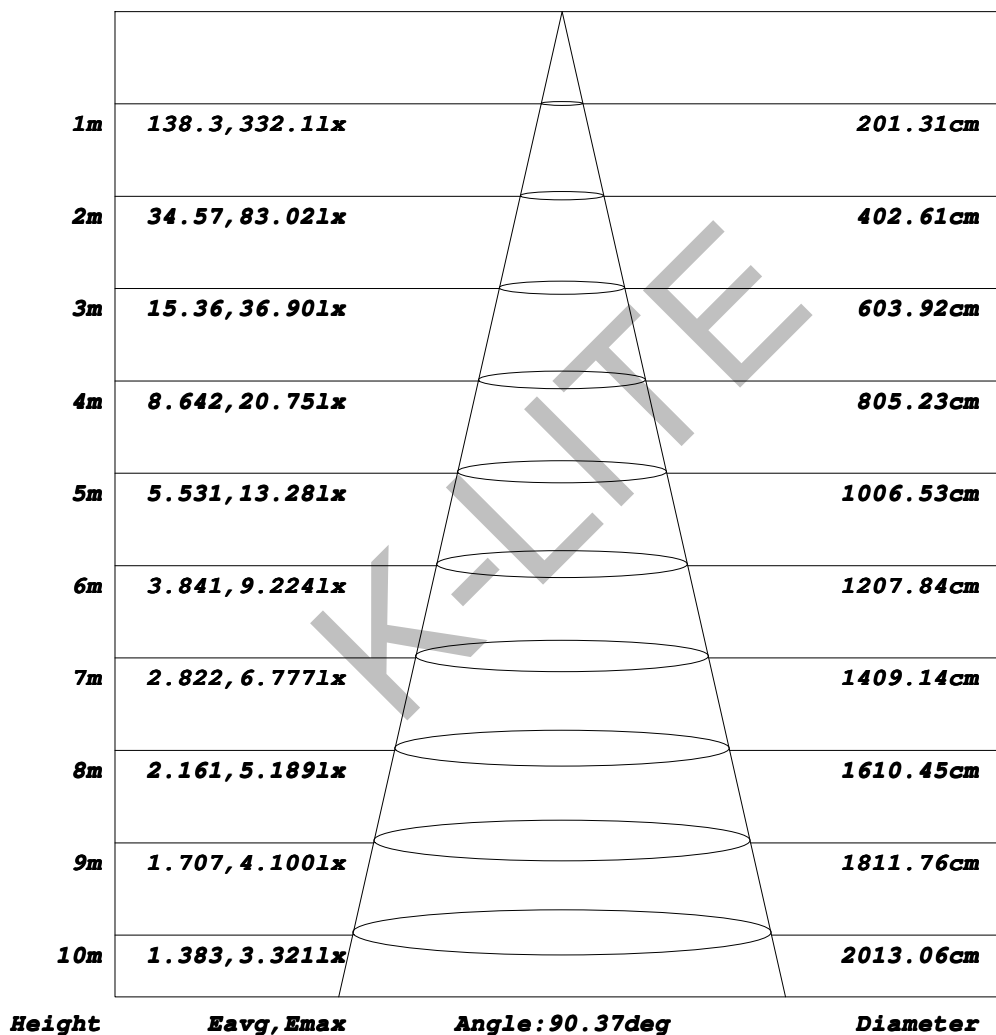
**Humidity: 65.0%**

**Remarks:**

**AAI Figure**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.:1283
MFR.: K-LITE	SUR.:	Shielding Angle:

**Flux out:465.8 lm**



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

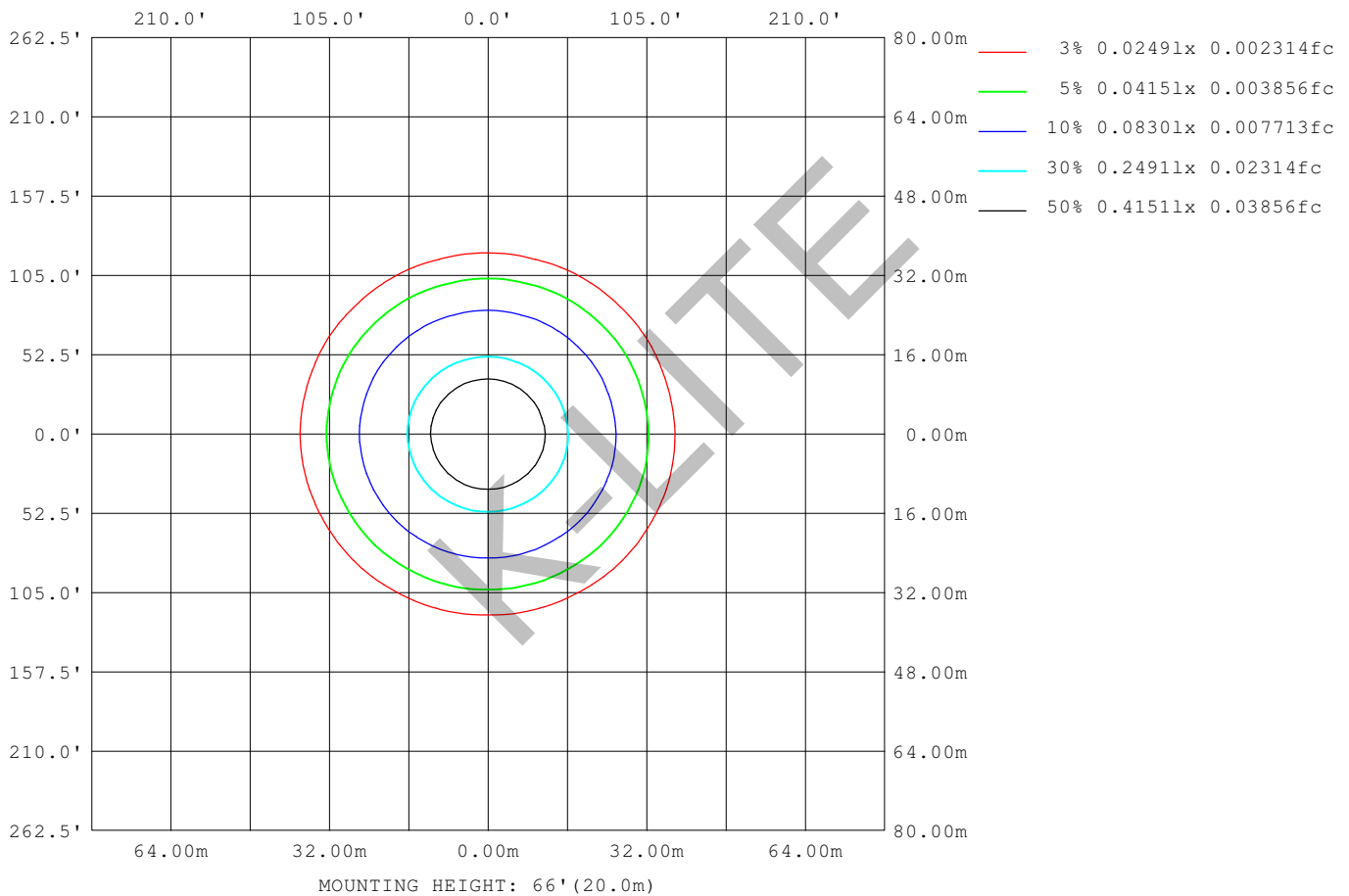
**Test Distance: 1.836m [K=1.0000]**

**Remarks:**



**ISOLUX DIAGRAM**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.:1283
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Remarks:**

**LED Avg.L Report**

Test:U:230.26V I:0.1591A P:13.256W PF:0.3618 Freq:49.99Hz Lamp Flux:759.438x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: CW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1283
MFR.: K-LITE	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180 (65) av	1977
L_0~180 (75) av	1604
L_0~180 (85) av	1004
L_90~270 (65) av	1759
L_90~270 (75) av	1419
L_90~270 (85) av	945
L_45 (65) av	1874
L_45 (75) av	1519
L_45 (85) av	988

Standard: GB/T 29293-2012

**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

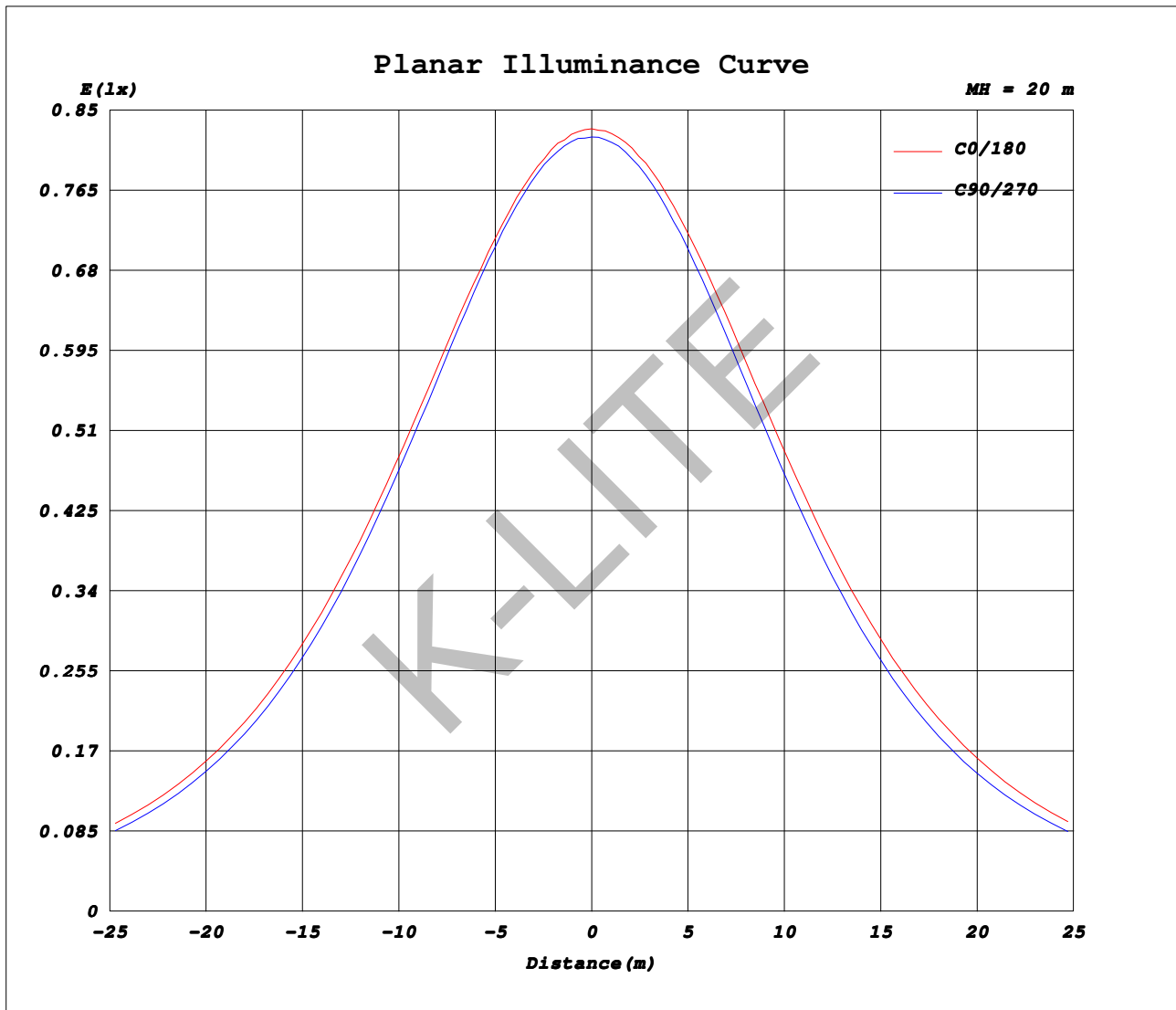
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**

**C Interval: 15.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**







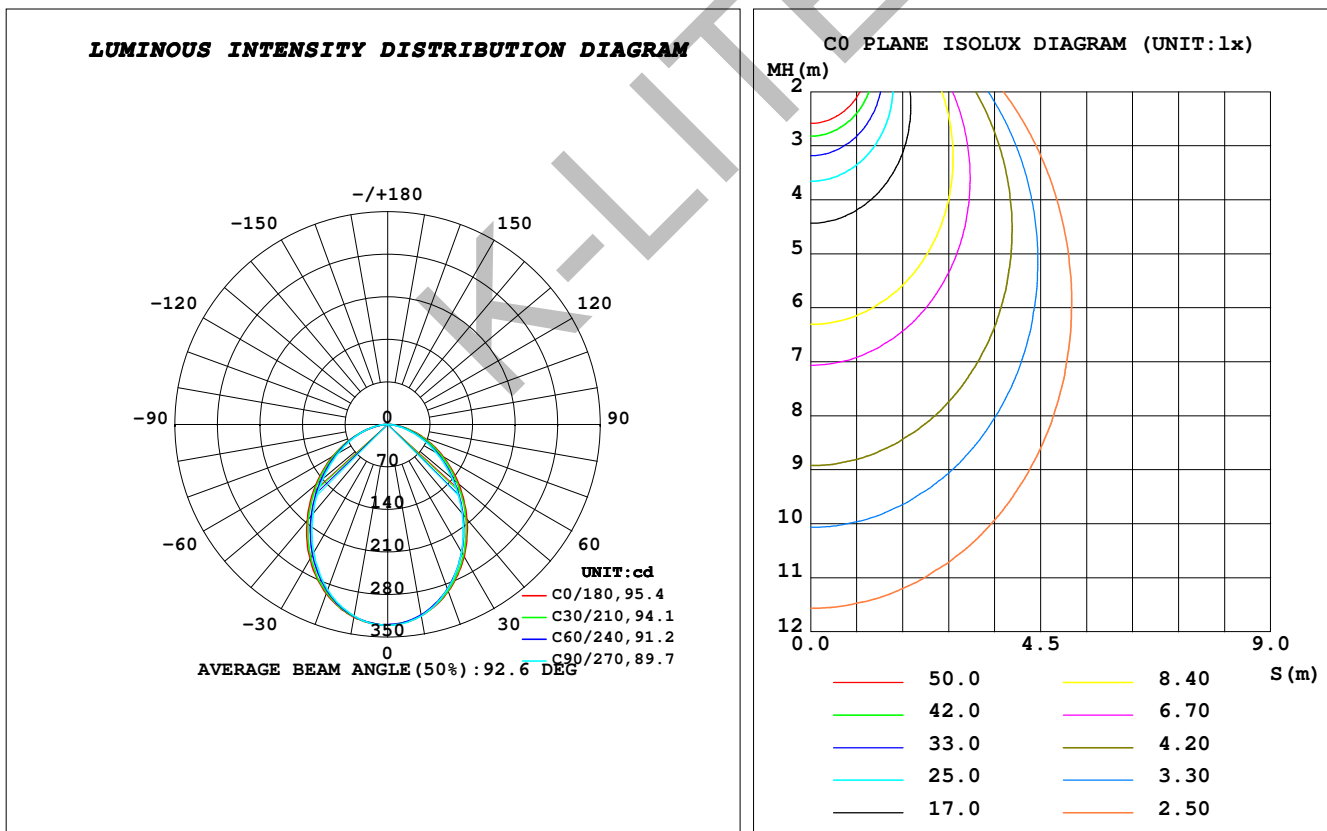
Light Output Ratio:	100.0%	
Luminaire Power:	12.91 W	
SHR Nominal:	1.25	Calculated using the TM5
SHR Maximum:	1.30	fine grid method.

**C Range: 0 - 360DEG****C Interval: 10.0DEG****Test Speed: HIGH****Temperature: 25.3DEG****Operators: AKRAM BASHA.H/BALAMURUGAN.****Test Date: 24 April 2020** **$\gamma$  Range: 0 - 90DEG** **$\gamma$  Interval: 1.0DEG****Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417****Humidity: 65.0%****Test Distance: 1.836m [K=1.0000]****Remarks:**

### LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	KL-4764	Imax (cd)	330.7	S/MH (C0/180)	1.16
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.12
RATED VOLTAGE (V)	230	TOTAL FLUX (lm)	748.53	$\eta$ UP, DN (C0-180)	0.0, 49.6
NOMINAL FLUX (lm)	748.531	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 50.4
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	230	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. STest Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

**ZONAL FLUX DIAGRAM**

**ZONAL FLUX DIAGRAM:**

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	319.6	318.4	319.6	320.4	321.8	320.7	319.8	319.4	0- 10	30.99	30.99	4.14,4.14
20	292.3	289.0	288.9	292.1	296.0	292.9	289.7	290.4	10- 20	86.51	117.5	15.7,15.7
30	251.6	246.0	243.2	249.0	255.6	250.3	243.4	247.4	20- 30	124.6	242.1	32.3,32.3
40	202.7	195.8	190.9	198.1	206.3	199.3	190.8	197.4	30- 40	139.5	381.6	51,51
50	152.8	145.0	139.1	145.7	154.2	147.6	139.3	146.8	40- 50	132.4	514.0	68.7,68.7
60	105.1	97.85	91.71	96.58	104.0	99.56	93.35	100.5	50- 60	109.0	623.1	83.2,83.2
70	62.03	55.79	50.11	52.73	57.90	57.02	54.63	59.62	60- 70	76.01	699.1	93.4,93.4
80	25.47	20.73	16.53	16.72	19.59	21.68	22.41	25.21	70- 80	39.93	739.0	98.7,98.7
90	0.6390	0.0308	0.0078	0.0041	0.0033	0.1805	1.141	1.555	80- 90	9.519	748.5	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

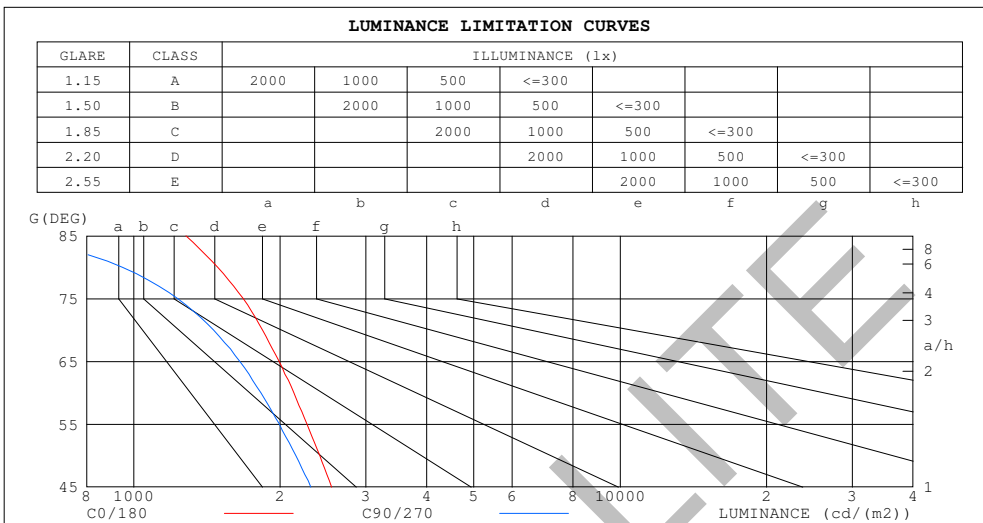
C Range: 0 - 360DEG  
 C Interval: 10.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AKRAM BASHA.H/BALAMURUGAN.  
 Test Date:24 April 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417  
 Humidity:65.0%  
 Test Distance:1.836m [K=1.0000]  
 Remarks:



**LUMINANCE LIMITATION CURVES**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

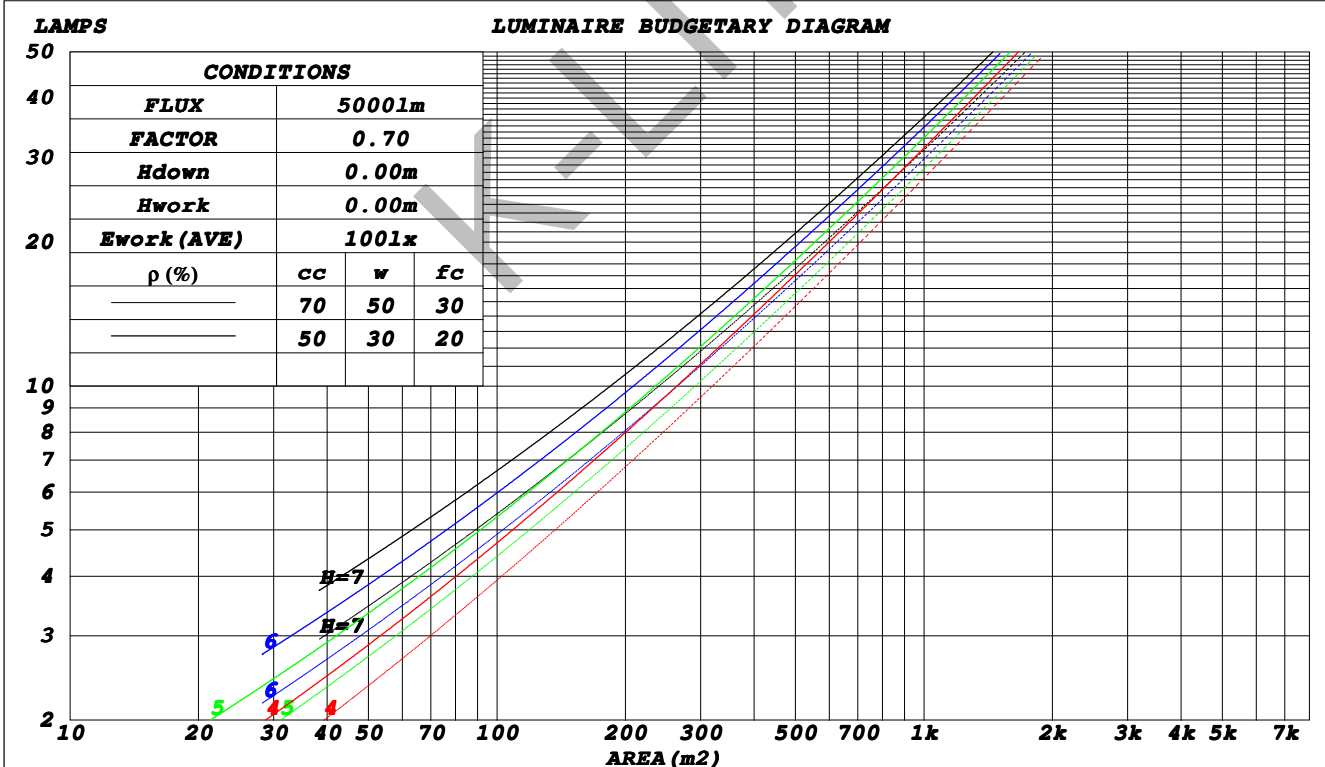
**Humidity: 65.0%**

**Remarks:**

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	20%			20%			20%			20%			20%			0
ρfc	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR: Room Cavity Ratio</b>															
	<b>Coefficients of Utilization (CU)</b>															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.85
2.0	.93	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.68	.78	.71	.66	.75	.70	.65	.72	.68	.64	.62
4.0	.73	.65	.59	.72	.64	.58	.69	.63	.57	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.57	.51	.65	.57	.51	.63	.56	.50	.61	.54	.50	.59	.53	.49	.47
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.44	.55	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.54	.46	.40	.52	.45	.40	.51	.44	.39	.49	.43	.39	.37
8.0	.50	.42	.36	.49	.41	.36	.48	.41	.36	.47	.40	.35	.45	.40	.35	.33
9.0	.46	.38	.33	.45	.38	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.30
10.0	.42	.35	.30	.42	.35	.30	.41	.34	.29	.40	.34	.29	.39	.33	.29	.28



C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]

Test Date: 24 April 2020

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Remarks:

**WEC AND CCEC**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Wall Exitance Coefficients (WEC)</b>									
0.0																
1.0	.285	.162	.051	.278	.158	.050	.265	.152	.048	.253	.146	.047	.241	.140	.045	
2.0	.271	.148	.046	.265	.146	.045	.253	.141	.044	.243	.136	.043	.233	.132	.042	
3.0	.253	.135	.040	.247	.132	.040	.237	.129	.039	.228	.125	.038	.219	.121	.038	
4.0	.235	.122	.036	.230	.120	.036	.221	.117	.035	.213	.114	.034	.205	.111	.034	
5.0	.218	.111	.032	.214	.110	.032	.206	.107	.032	.199	.105	.031	.192	.103	.031	
6.0	.203	.102	.029	.200	.101	.029	.193	.099	.029	.186	.097	.028	.180	.095	.028	
7.0	.190	.094	.027	.187	.093	.027	.180	.091	.026	.175	.089	.026	.169	.088	.026	
8.0	.178	.087	.024	.175	.086	.024	.170	.085	.024	.164	.083	.024	.159	.082	.024	
9.0	.168	.081	.023	.165	.080	.023	.160	.079	.022	.155	.078	.022	.150	.076	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.072	.021	

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
<b>RCR</b>	<b>RCR:Room Cavity Ratio</b>						<b>Ceiling Cavity Exitance Coefficients (CCEC)</b>									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
3.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
4.0	.161	.114	.077	.138	.099	.067	.095	.068	.047	.055	.040	.028	.018	.013	.009	
5.0	.153	.101	.060	.132	.087	.053	.090	.061	.037	.052	.036	.022	.017	.012	.007	
6.0	.146	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
7.0	.139	.082	.041	.119	.071	.035	.082	.049	.025	.048	.029	.015	.015	.010	.005	
8.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
9.0	.126	.069	.030	.108	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
10.0	.120	.064	.026	.103	.055	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.068	.036	.014	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG

C Interval: 10.0DEG

Test Speed: HIGH

Temperature: 25.3DEG

Operators: AKRAM BASHA.H/BALAMURUGAN.

Test Date: 24 April 2020

$\gamma$  Range: 0 - 90DEG

$\gamma$  Interval: 1.0DEG

Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417

Humidity: 65.0%

Test Distance: 1.836m [K=1.0000]

Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.:1284
MFR.: K-LITE	SUR.:	Shielding Angle:

<b>ceiling/cavity</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>	<b>0.7</b>	<b>0.7</b>	<b>0.5</b>	<b>0.5</b>	<b>0.3</b>
<b>walls</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>
<b>working plane</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Room dimensions</b>	<b>Viewed crosswise</b>					<b>Viewed endwise</b>				
<b>x = 2H y = 2H</b>	<b>15.5</b>	<b>16.9</b>	<b>15.8</b>	<b>17.1</b>	<b>17.3</b>	<b>14.8</b>	<b>16.3</b>	<b>15.1</b>	<b>16.5</b>	<b>16.7</b>
<b>3H</b>	<b>16.8</b>	<b>18.1</b>	<b>17.1</b>	<b>18.4</b>	<b>18.6</b>	<b>15.9</b>	<b>17.3</b>	<b>16.2</b>	<b>17.5</b>	<b>17.7</b>
<b>4H</b>	<b>17.3</b>	<b>18.6</b>	<b>17.6</b>	<b>18.8</b>	<b>19.1</b>	<b>16.3</b>	<b>17.6</b>	<b>16.6</b>	<b>17.8</b>	<b>18.1</b>
<b>6H</b>	<b>17.7</b>	<b>18.9</b>	<b>18.0</b>	<b>19.2</b>	<b>19.4</b>	<b>16.5</b>	<b>17.7</b>	<b>16.9</b>	<b>18.0</b>	<b>18.3</b>
<b>8H</b>	<b>17.8</b>	<b>19.0</b>	<b>18.2</b>	<b>19.2</b>	<b>19.5</b>	<b>16.6</b>	<b>17.7</b>	<b>16.9</b>	<b>18.0</b>	<b>18.3</b>
<b>12H</b>	<b>17.9</b>	<b>19.0</b>	<b>18.2</b>	<b>19.3</b>	<b>19.6</b>	<b>16.5</b>	<b>17.7</b>	<b>16.9</b>	<b>17.9</b>	<b>18.2</b>
<b>4H 2H</b>	<b>15.9</b>	<b>17.2</b>	<b>16.2</b>	<b>17.4</b>	<b>17.7</b>	<b>15.4</b>	<b>16.7</b>	<b>15.7</b>	<b>16.9</b>	<b>17.2</b>
<b>3H</b>	<b>17.4</b>	<b>18.5</b>	<b>17.8</b>	<b>18.8</b>	<b>19.1</b>	<b>16.7</b>	<b>17.8</b>	<b>17.0</b>	<b>18.1</b>	<b>18.4</b>
<b>4H</b>	<b>18.1</b>	<b>19.1</b>	<b>18.4</b>	<b>19.4</b>	<b>19.7</b>	<b>17.2</b>	<b>18.2</b>	<b>17.6</b>	<b>18.5</b>	<b>18.8</b>
<b>6H</b>	<b>18.6</b>	<b>19.5</b>	<b>19.0</b>	<b>19.8</b>	<b>20.2</b>	<b>17.5</b>	<b>18.4</b>	<b>17.9</b>	<b>18.7</b>	<b>19.1</b>
<b>8H</b>	<b>18.7</b>	<b>19.6</b>	<b>19.1</b>	<b>19.9</b>	<b>20.3</b>	<b>17.6</b>	<b>18.4</b>	<b>18.0</b>	<b>18.7</b>	<b>19.1</b>
<b>12H</b>	<b>18.8</b>	<b>19.6</b>	<b>19.3</b>	<b>20.0</b>	<b>20.4</b>	<b>17.6</b>	<b>18.3</b>	<b>18.0</b>	<b>18.7</b>	<b>19.1</b>
<b>8H 4H</b>	<b>18.2</b>	<b>19.1</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.4</b>	<b>18.2</b>	<b>17.8</b>	<b>18.6</b>	<b>19.0</b>
<b>6H</b>	<b>18.8</b>	<b>19.5</b>	<b>19.3</b>	<b>19.9</b>	<b>20.4</b>	<b>17.8</b>	<b>18.5</b>	<b>18.3</b>	<b>18.9</b>	<b>19.3</b>
<b>8H</b>	<b>19.1</b>	<b>19.7</b>	<b>19.5</b>	<b>20.1</b>	<b>20.6</b>	<b>18.0</b>	<b>18.6</b>	<b>18.4</b>	<b>19.0</b>	<b>19.4</b>
<b>12H</b>	<b>19.3</b>	<b>19.8</b>	<b>19.7</b>	<b>20.2</b>	<b>20.7</b>	<b>18.0</b>	<b>18.5</b>	<b>18.5</b>	<b>19.0</b>	<b>19.4</b>
<b>12H 4H</b>	<b>18.2</b>	<b>19.0</b>	<b>18.6</b>	<b>19.4</b>	<b>19.8</b>	<b>17.4</b>	<b>18.2</b>	<b>17.9</b>	<b>18.6</b>	<b>19.0</b>
<b>6H</b>	<b>18.9</b>	<b>19.5</b>	<b>19.3</b>	<b>19.9</b>	<b>20.3</b>	<b>17.9</b>	<b>18.5</b>	<b>18.3</b>	<b>18.9</b>	<b>19.4</b>
<b>8H</b>	<b>19.1</b>	<b>19.6</b>	<b>19.6</b>	<b>20.1</b>	<b>20.6</b>	<b>18.0</b>	<b>18.5</b>	<b>18.5</b>	<b>19.0</b>	<b>19.5</b>
<b>Variations with the observer position at spacings:</b>										
<b>S = 1.0H</b>	<b>+ 0.2 / - 0.3</b>					<b>+ 0.3 / - 0.3</b>				
<b>1.5H</b>	<b>+ 0.1 / - 0.3</b>					<b>+ 0.1 / - 0.3</b>				
<b>2.0H</b>	<b>+ 0.3 / - 0.4</b>					<b>+ 0.3 / - 0.4</b>				

CIE Pub.117, 748.5 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -1.0)  
 Area: 0.1 m2

C Range: 0 - 360DEG      γ Range: 0 - 90DEG  
 C Interval: 10.0DEG      γ Interval: 1.0DEG  
 Test Speed: HIGH      Test System:EVERFINE GO-R5000\_V2 SYSTEM V2.00.417  
 Temperature:25.3DEG      Humidity:65.0%  
 Operators:AKRAM BASHA.H/BALAMURUGAN.      Test Distance:1.836m [K=1.0000]  
 Test Date:24 April 2020      Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE:BOLLARDS	WEIGHT:
SPEC.:NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.:1284
MFR.: K-LITE	SUR.:	Shielding Angle:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	44	60	50	44	59	50	43	37
0.80	71	60	53	70	60	53	68	59	53	46
1.00	79	69	62	78	68	62	76	70	61	55
1.25	86	76	70	85	76	69	82	74	69	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	108	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHR NOM = 1.25			

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**$\gamma$  Range: 0 - 90DEG**

**$\gamma$  Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

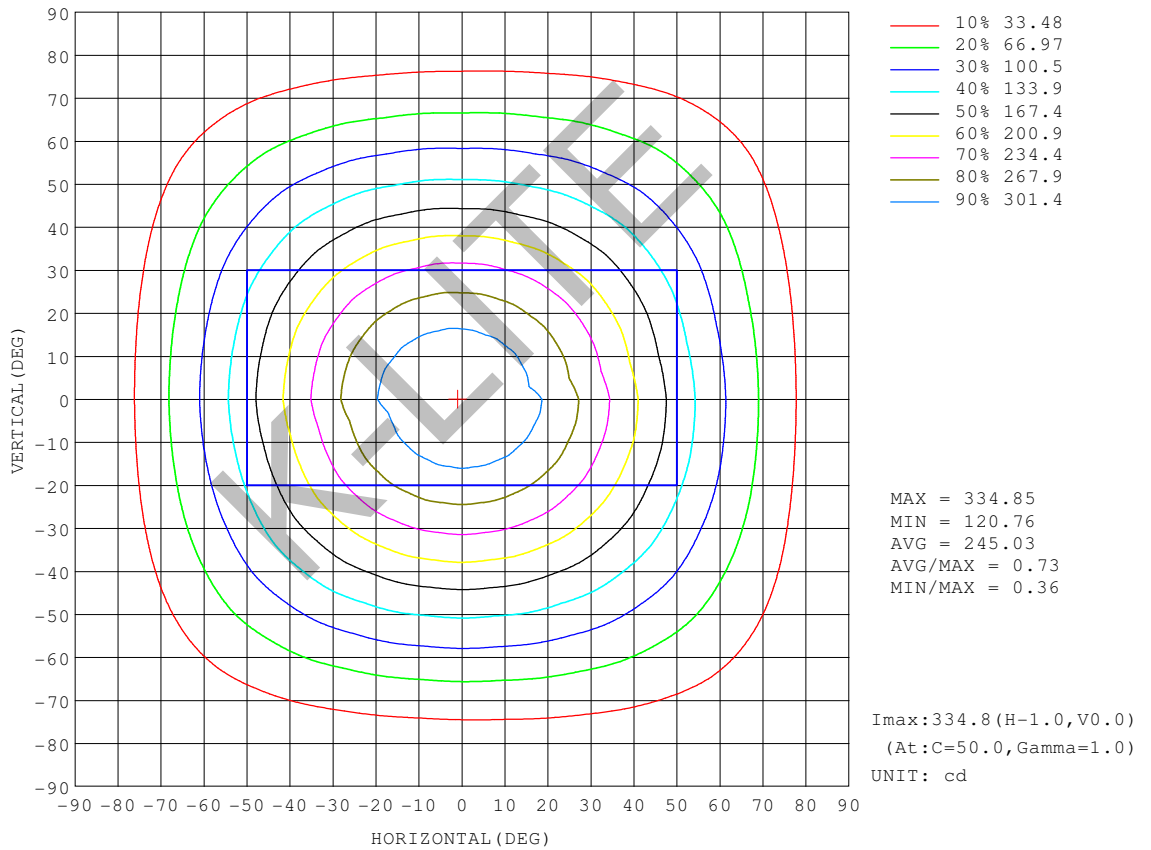
**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

**ISOCANDELA DIAGRAM**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN. Test Distance: 1.836m [K=1.0000]**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

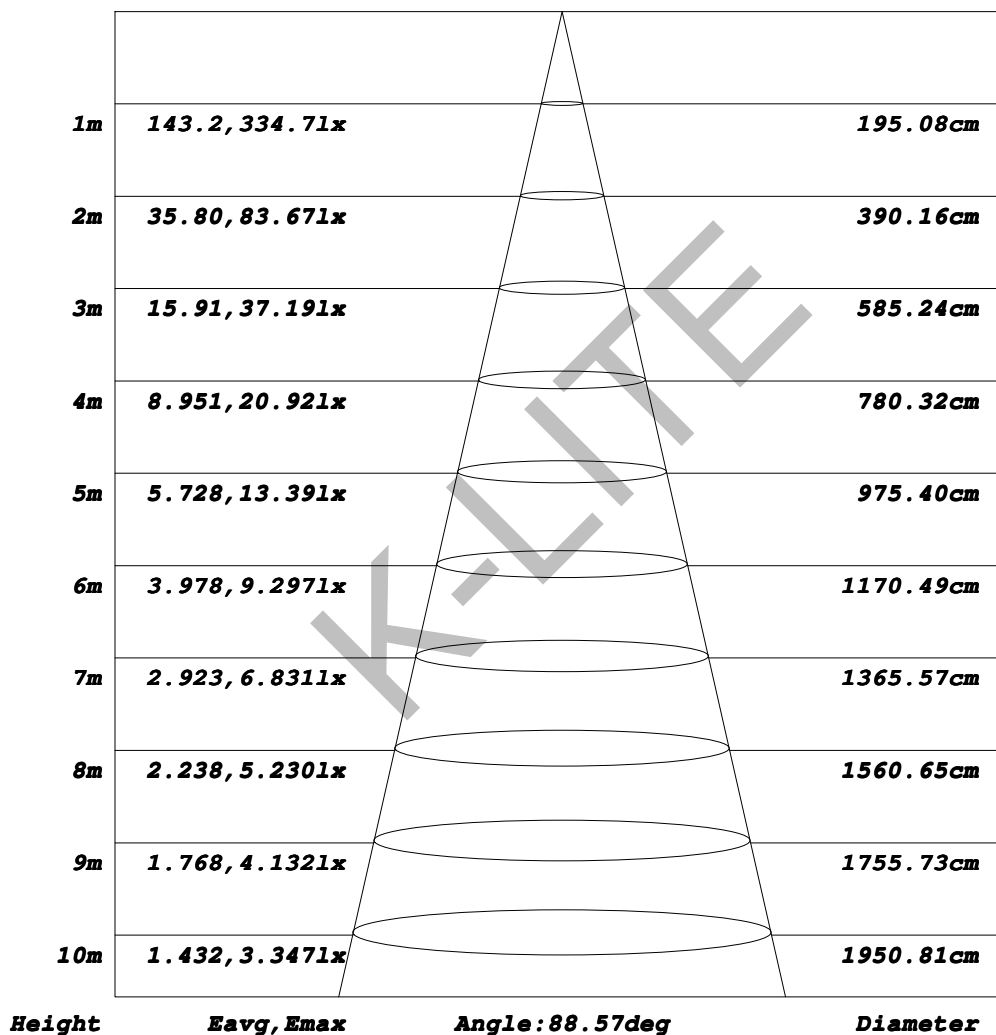
**Humidity: 65.0%**

**Remarks:**

**AAI Figure**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:

**Flux out: 449.9 lm**



Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

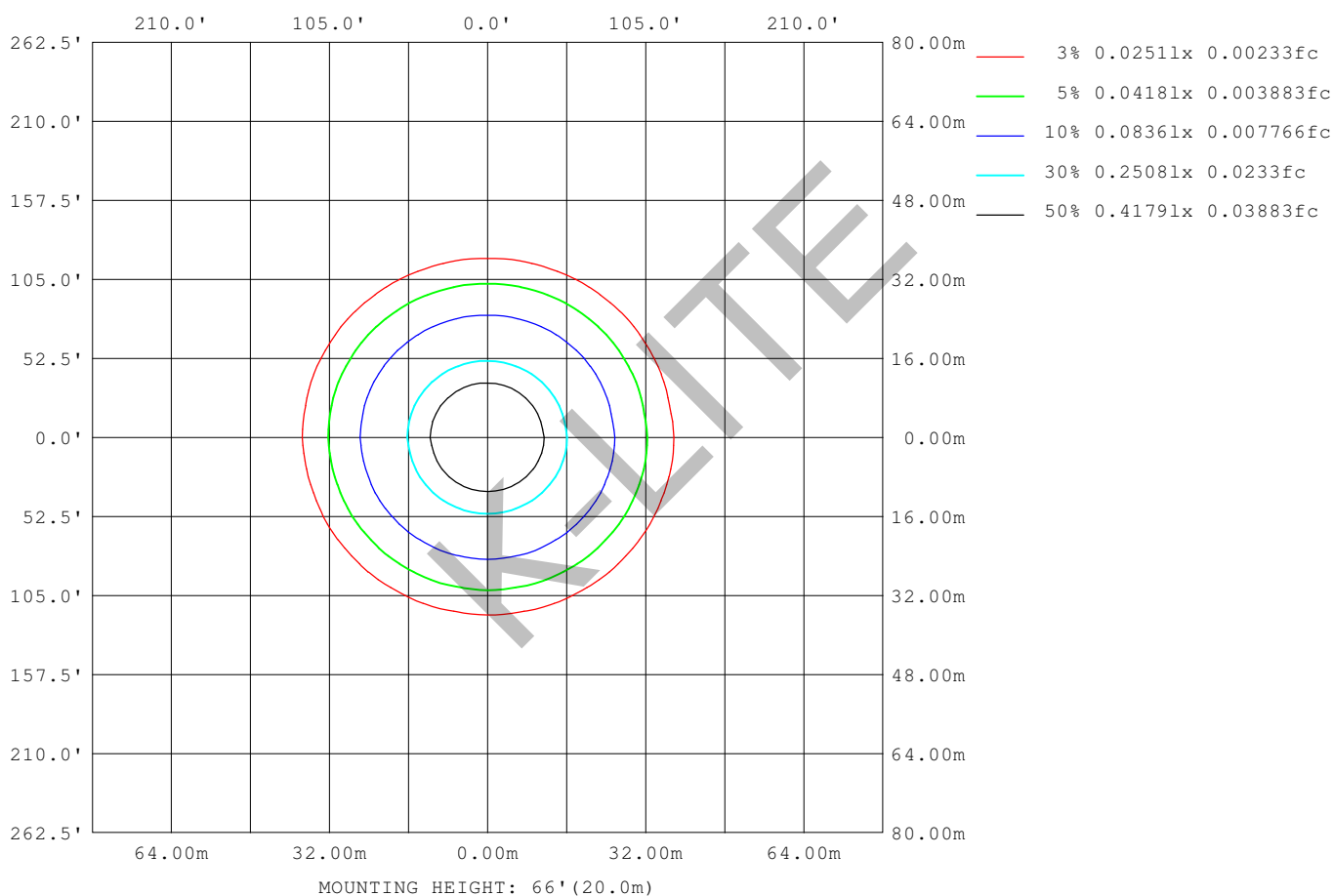
**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

## ISOLUX DIAGRAM

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN.**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**



**LED Avg.L Report**

Test:U:230.27V I:0.1578A P:12.913W PF:0.3553 Freq:49.99Hz Lamp Flux:748.531x1 lm		
NAME: MORA	TYPE: BOLLARDS	WEIGHT:
SPEC.: NW, OSRAM 3030	DIM.: 385 x 60 x 1006	SERIAL No.: 1284
MFR.: K-LITE	SUR.:	Shielding Angle:

AvgL	cd/m2
L_0~180 (65) av	1930
L_0~180 (75) av	1550
L_0~180 (85) av	951
L_90~270 (65) av	1695
L_90~270 (75) av	1345
L_90~270 (85) av	835
L_45 (65) av	1815
L_45 (75) av	1451
L_45 (85) av	899

Standard: GB/T 29293-2012

**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

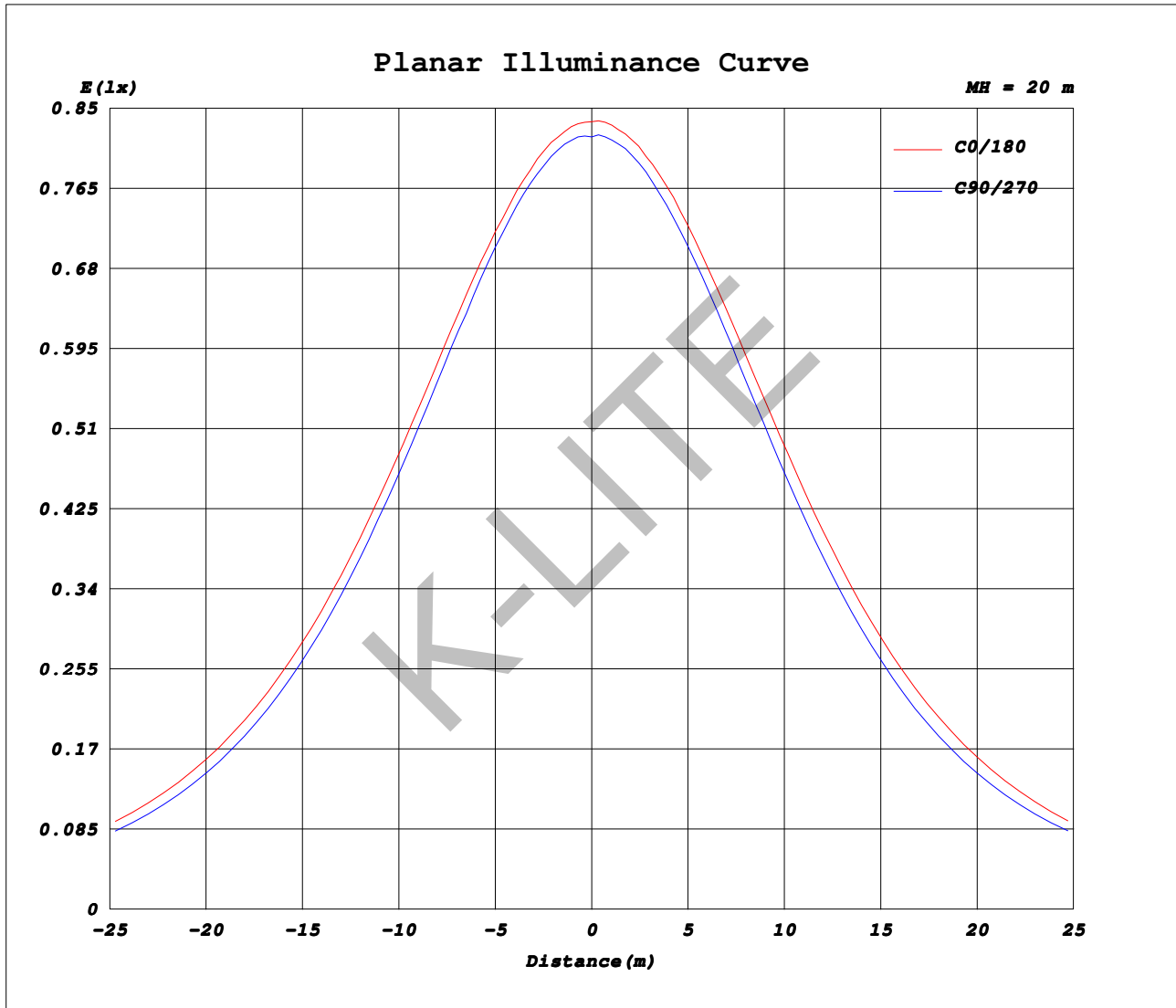
**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**

**Planar Illuminance Curve**



**C Range: 0 - 360DEG**

**C Interval: 10.0DEG**

**Test Speed: HIGH**

**Temperature: 25.3DEG**

**Operators: AKRAM BASHA.H/BALAMURUGAN**

**Test Date: 24 April 2020**

**γ Range: 0 - 90DEG**

**γ Interval: 1.0DEG**

**Test System: EVERFINE GO-R5000\_V2 SYSTEM V2.00.417**

**Humidity: 65.0%**

**Test Distance: 1.836m [K=1.0000]**

**Remarks:**



