

Spectrum Test Report

Sample :
Specification : MR16-6.5-927-15D-DIM-G2
Sample No. :
Manufacturer : RAB LIGHTING INC

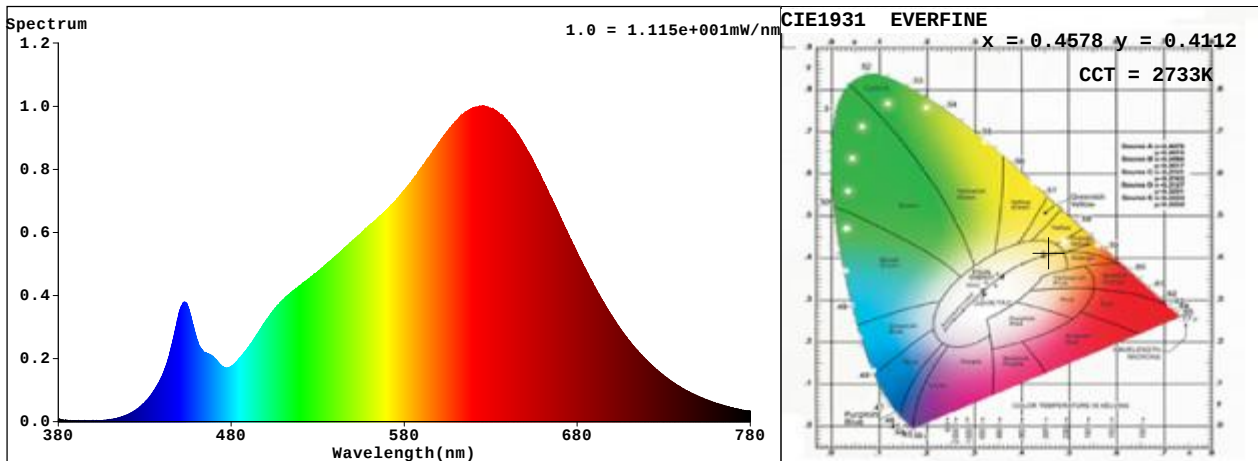
Date : 2019-11-11
Sam. Status :
Instrument : HaasSuite(EVERFINE)
Test by :
Assessor : damin

Test Condition

Temperature : 20.0Deg
WL Range : 380nm-780nm
Test Mode : Fast Test

RH : 65.0%
IP : 52559 (80%)
T : 104 ms
Sensitivity : High

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4578$ $y = 0.4112$ / $u' = 0.2609$ $v' = 0.5273$ ($duv=3.97e-04$)

CCT= 2733K Prcp WL: $L_d=583.9nm$ Purity=60.9%

Peak WL: $L_p=626nm$ FWHM: $=147.7nm$ Ratio: $R=26.2\%$ $G=71.3\%$ $B=2.5\%$

Render Index: $R_a = 93.5$ $CRI = 91.0$ $AvgR = 90.9$

$R_1=94$ $R_2=97$ $R_3=98$ $R_4=94$ $R_5=93$ $R_6=96$ $R_7=93$

$R_8=83$ $R_9=62$ $R_{10}=91$ $R_{11}=95$ $R_{12}=85$ $R_{13}=94$ $R_{14}=98$ $R_{15}=89$

WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 521.35 lm Eff. : 88.82 lm/W $Fe = 1.8438 W$

Flux of emitted photons($\mu mol/s$):9.2328 Fluo. and blue light ratio:13.96 Fluorescent eff.:273.8

Electrical parameters

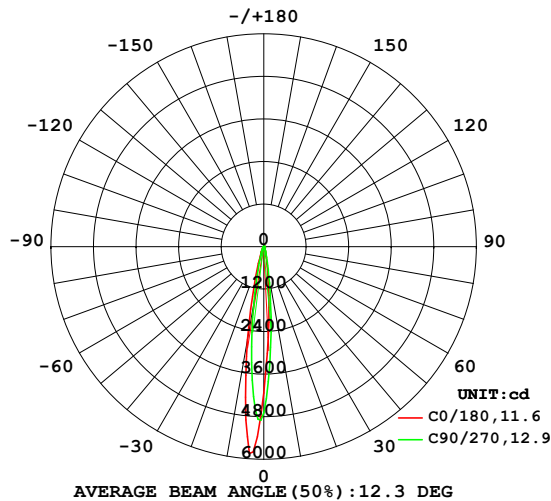
$V = 11.92 V$ $I = 0.5271 A$ $P = 5.870 W$ $PF = 0.9340$ $F=59.98 Hz$

LUMINAIRE PHOTOMETRIC TEST REPORT

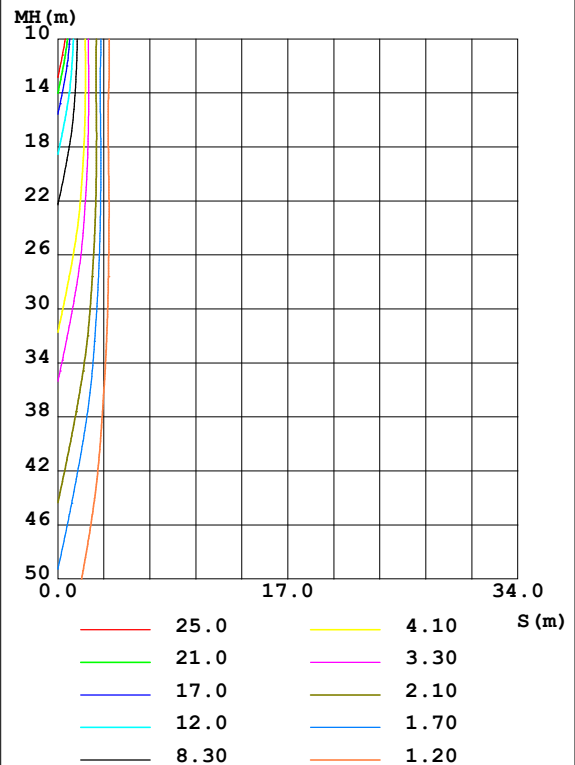
Test:U:12.07V I:0.5181A P:5.828W PF:0.9316 Freq:59.98Hz Lamp Flux:528.91x1 lm		
NAME: MR16-6.5-927-15D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 90.76 lm/W			
MODEL		I _{max} (cd)	5843	S/MH (C0/180)	0.36
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	0.28
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	528.91	η UP, DN (C0-180)	0.0, 31.1
NOMINAL FLUX (lm)	528.91	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 68.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	12	η down (%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Testing Room
 Test Date: 2019-11-18

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-3000H_V1 SYSTEM V2.0.361
 Humidity: 65.0%
 Test Distance: 11.160m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum,lamp
10	577.7	825.9	2659	1655					0- 10	251.1	251.1	47.5,47.5
20	157.5	171.2	339.9	259.9					10- 20	159.2	410.4	77.6,77.6
30	51.63	53.84	113.4	88.41					20- 30	62.79	473.2	89.5,89.5
40	15.93	16.15	31.72	23.38					30- 40	26.68	499.8	94.5,94.5
50	9.638	9.514	12.66	11.82					40- 50	11.43	511.3	96.7,96.7
60	6.149	6.263	8.057	7.154					50- 60	7.775	519.0	98.1,98.1
70	3.649	3.927	5.340	4.743					60- 70	5.585	524.6	99.2,99.2
80	1.138	1.460	2.721	2.198					70- 80	3.305	527.9	99.8,99.8
90	0.0631	0.0552	0.5524	0.2131					80- 90	0.9744	528.9	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		

Conical surface Flux(90deg): 506.27 lm

%lum = 95.7%

%lamp = 95.7%

Conical surface Flux(120deg): 519.05 lm

%lum = 98.1%

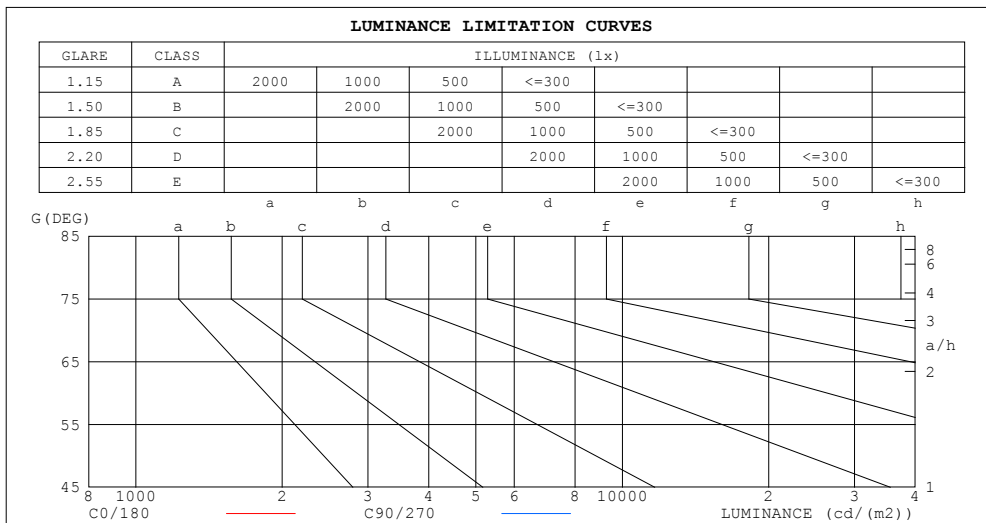
%lamp = 98.1%

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LUMINANCE LIMITATION CURVES

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NAME: MR16-6.5-927-15D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	16	30
80	37	48
75	51	58
70	60	65
65	66	69
60	70	71
55	73	77
50	85	84
45	94	96

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WEC AND CCEC

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SPEC.:			DIM.:		SERIAL No.:
MFR.: RAB LIGHTING INC			SUR.:		Shielding Angle:

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.142	.081	.026	.135	.077	.024	.123	.070	.022	.111	.064	.021	.101	.058	.019		
2.0	.131	.072	.022	.125	.069	.021	.115	.064	.020	.106	.059	.019	.097	.055	.017		
3.0	.121	.064	.019	.116	.062	.019	.108	.058	.018	.100	.055	.017	.093	.051	.016		
4.0	.112	.058	.017	.109	.057	.017	.101	.054	.016	.095	.051	.015	.089	.048	.015		
5.0	.105	.054	.016	.102	.052	.015	.096	.050	.015	.090	.047	.014	.085	.045	.014		
6.0	.099	.049	.014	.096	.048	.014	.091	.046	.014	.086	.045	.013	.081	.043	.013		
7.0	.093	.046	.013	.091	.045	.013	.086	.043	.013	.082	.042	.012	.078	.040	.012		
8.0	.088	.043	.012	.086	.042	.012	.082	.041	.012	.078	.040	.011	.075	.038	.011		
9.0	.083	.040	.011	.082	.040	.011	.078	.039	.011	.075	.037	.011	.072	.036	.011		
10.0	.079	.038	.011	.078	.038	.010	.075	.037	.010	.072	.036	.010	.069	.035	.010		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.151	.133	.117	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.095	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.112	.086	.066	.097	.074	.057	.067	.052	.040	.039	.030	.024	.012	.010	.008	
6.0	.103	.076	.056	.089	.065	.049	.061	.046	.034	.036	.027	.020	.011	.009	.007	
7.0	.095	.067	.048	.082	.058	.042	.057	.041	.029	.033	.024	.018	.011	.008	.006	
8.0	.089	.060	.041	.076	.052	.036	.053	.037	.025	.031	.022	.015	.010	.007	.005	
9.0	.083	.055	.036	.071	.048	.031	.049	.033	.022	.029	.020	.013	.009	.006	.004	
10.0	.078	.050	.032	.067	.043	.028	.046	.031	.020	.027	.018	.012	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Testing Room
Test Date:2019-11-18

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-3000H_V1 SYSTEM V2.0.361
Humidity:65.0%
Test Distance:11.160m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:12.07V I:0.5181A P:5.828W PF:0.9316 Freq:59.98Hz Lamp Flux:528.91x1 lm										
NAME: MR16-6.5-927-15D-DIM-G2					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: RAB LIGHTING INC					SUR.:			Shielding Angle:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	-1.7	-1.0	-1.5	-0.9	-0.7	-1.6	-0.9	-1.4	-0.8	-0.6
3H	-0.6	0.0	-0.3	0.2	0.4	-0.4	0.2	-0.2	0.4	0.6
4H	-0.2	0.4	0.1	0.6	0.8	0.1	0.7	0.3	0.9	1.1
6H	0.0	0.6	0.3	0.8	1.1	0.4	0.9	0.7	1.2	1.4
8H	0.1	0.6	0.4	0.8	1.1	0.4	1.0	0.7	1.2	1.5
12H	0.0	0.6	0.3	0.8	1.1	0.5	1.0	0.8	1.2	1.5
4H 2H	-1.2	-0.6	-1.0	-0.4	-0.2	-1.1	-0.5	-0.8	-0.3	-0.1
3H	0.1	0.6	0.4	0.9	1.1	0.3	0.8	0.6	1.0	1.3
4H	0.6	1.1	0.9	1.4	1.7	0.8	1.3	1.2	1.6	1.9
6H	0.9	1.3	1.2	1.6	2.0	1.2	1.6	1.6	2.0	2.3
8H	0.9	1.3	1.3	1.7	2.0	1.3	1.7	1.7	2.0	2.4
12H	0.9	1.3	1.3	1.6	2.0	1.3	1.7	1.7	2.0	2.4
8H 4H	0.8	1.1	1.1	1.5	1.9	1.0	1.4	1.4	1.7	2.1
6H	1.1	1.4	1.5	1.8	2.2	1.4	1.8	1.9	2.2	2.6
8H	1.2	1.5	1.6	1.9	2.3	1.6	1.9	2.0	2.3	2.7
12H	1.2	1.4	1.6	1.9	2.3	1.6	1.9	2.1	2.3	2.8
12H 4H	0.7	1.1	1.1	1.5	1.9	0.9	1.3	1.3	1.7	2.1
6H	1.1	1.4	1.6	1.8	2.3	1.4	1.7	1.9	2.1	2.6
8H	1.2	1.5	1.7	1.9	2.4	1.6	1.8	2.0	2.3	2.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.5					+ 0.3 / - 0.4				
1.5H	+ 0.4 / - 0.3					+ 0.5 / - 0.3				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117, 528.9 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.2)

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Test System:EVERFINE GO-3000H_V1 SYSTEM V2.0.361
Humidity:65.0%
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Remarks:

UTILIZATION FACTORS TABLE

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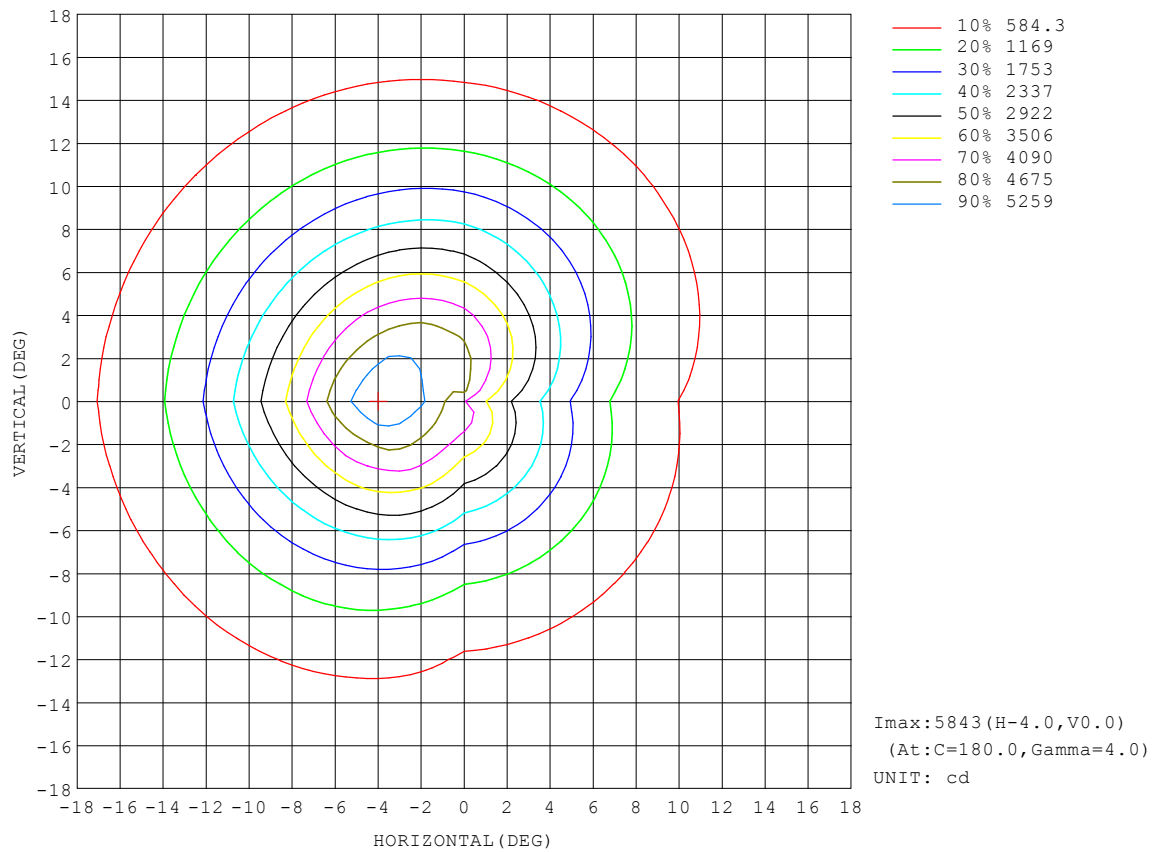
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	81	78	75
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	90	99	94	90	97	93	90	86
1.25	103	98	95	102	98	94	100	97	94	90
1.50	106	101	98	105	101	98	103	99	96	92
2.00	109	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	103	106	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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ISOCANDELA DIAGRAM

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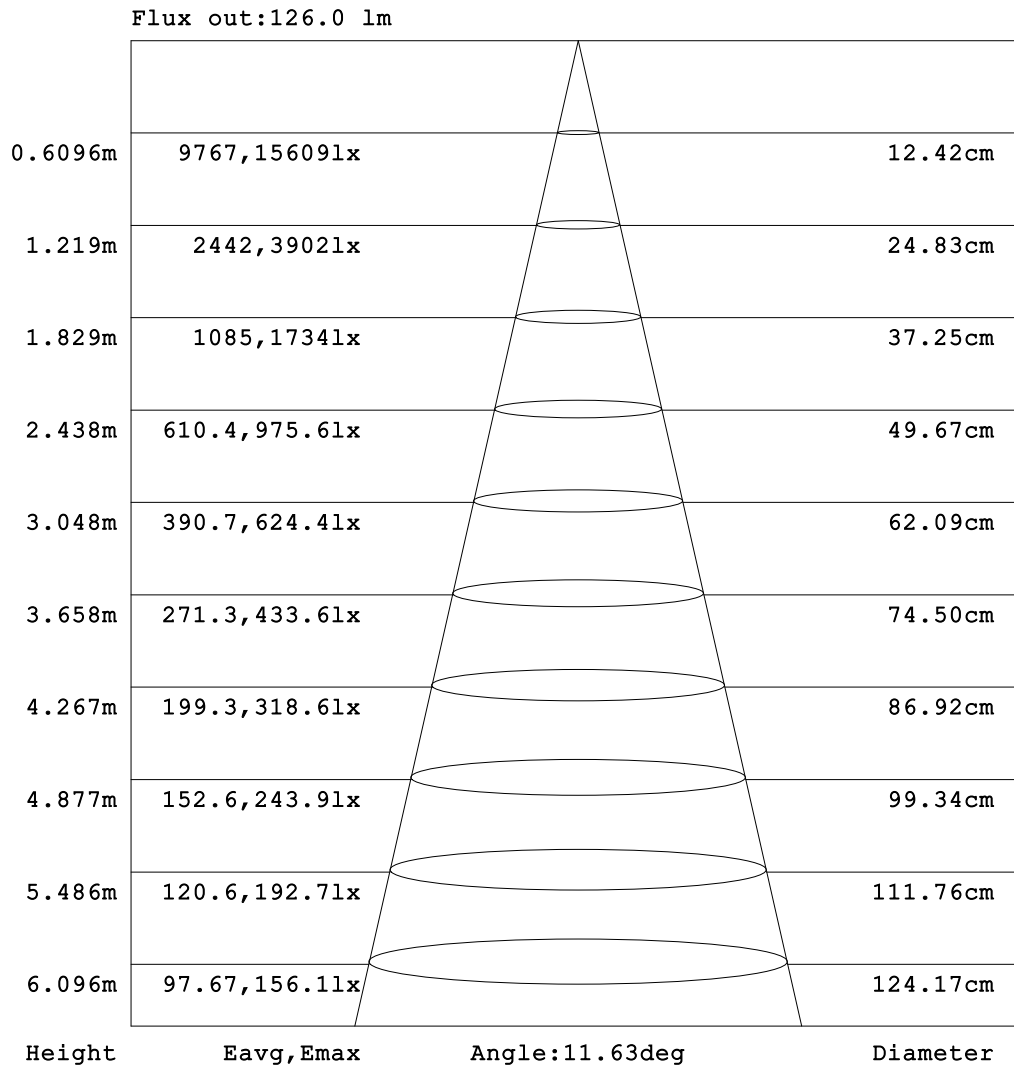


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AAI Figure

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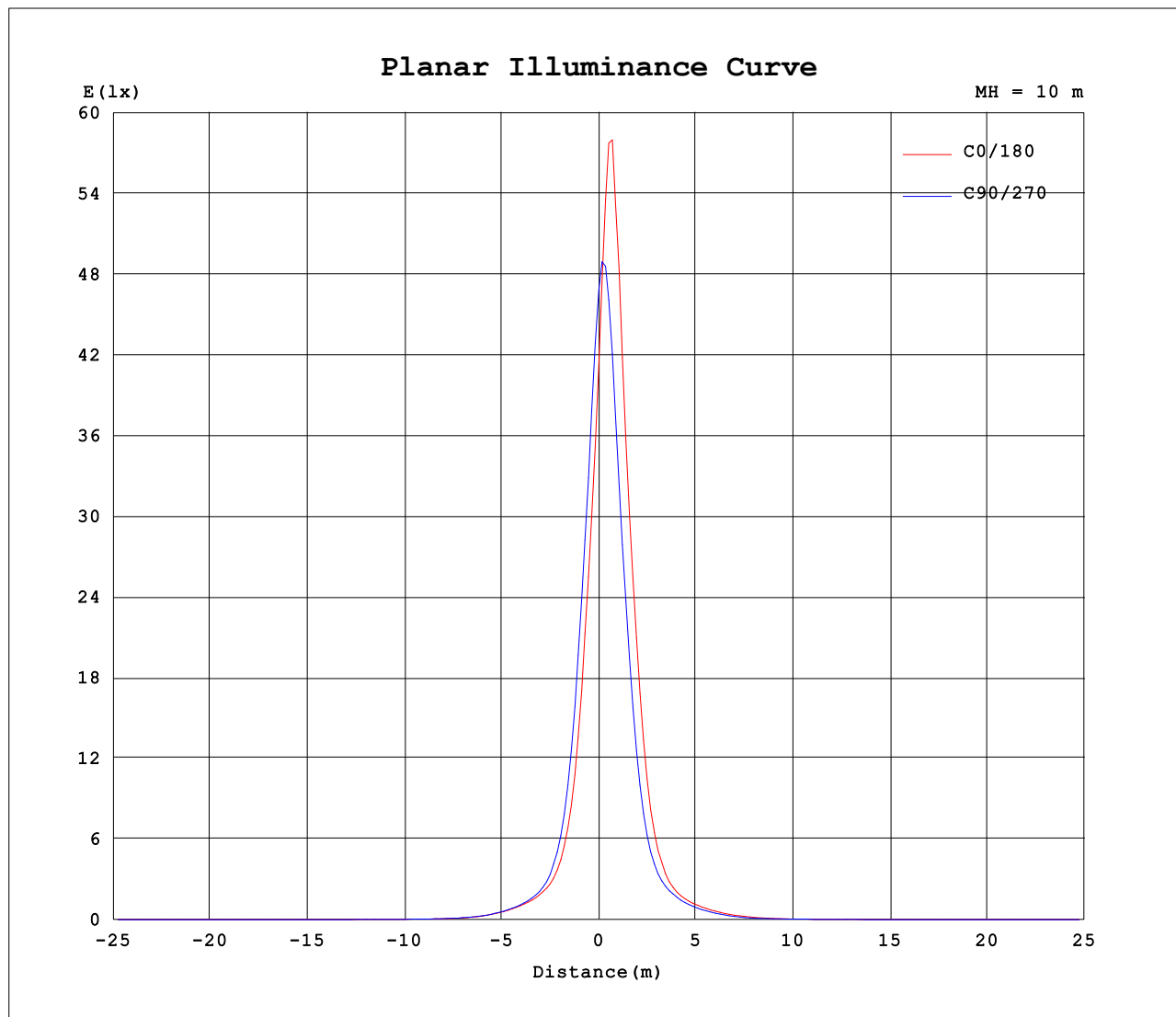


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Planar Illuminance Curve



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