

Spectrum Test Report

Sample :
Specification : MR16-5-927-15D-DIM-G2
Sample No. :
Manufacturer : RAB LIGHTING INC

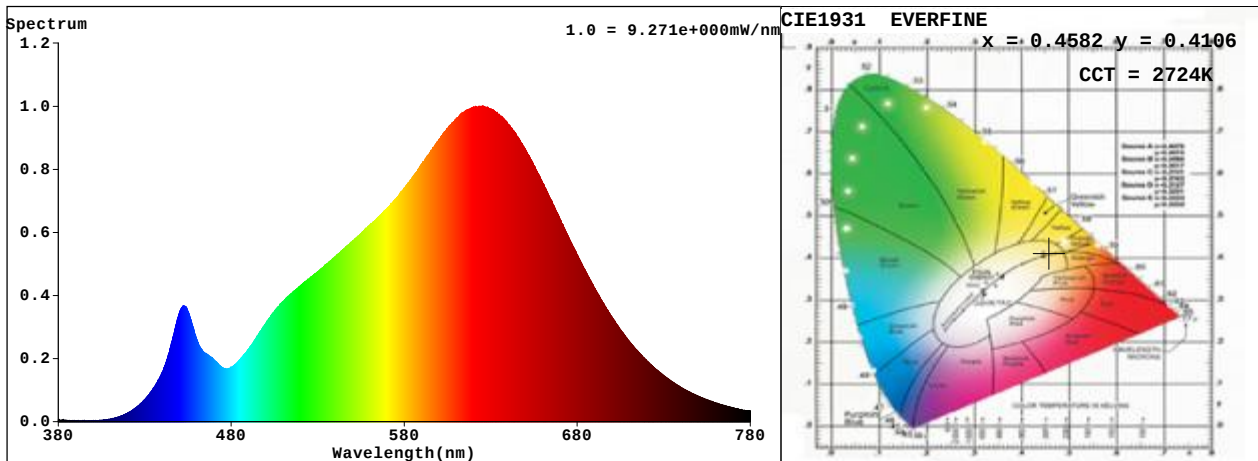
Date : 2019-11-11
Sam. Status :
Instrument : HaasSuite(EVERFINE)
Test by :
Assessor : damin

Test Condition

Temperature : 21.4Deg
WL Range : 380nm-780nm
Test Mode : Fast Test

RH : 65.0%
IP : 51403 (78%)
T : 122 ms
Sensitivity : High

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4582$ $y = 0.4106$ / $u' = 0.2614$ $v' = 0.5271$ ($duv=1.62e-04$)

CCT= 2724K Prcp WL: $L_d=584.0nm$ Purity=60.8%

Peak WL: $L_p=625nm$ FWHM: $=147.2nm$ Ratio: R=26.2% G=71.4% B=2.4%

Render Index: $R_a = 92.8$ $CRI = 90.2$ $AvgR = 90.1$

$R_1=93$ $R_2=96$ $R_3=98$ $R_4=93$ $R_5=93$ $R_6=96$ $R_7=92$

$R_8=81$ $R_9=59$ $R_{10}=90$ $R_{11}=94$ $R_{12}=85$ $R_{13}=94$ $R_{14}=98$ $R_{15}=89$

WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 430.85 lm Eff. : 92.60 lm/W $Fe = 1.5190 W$

Flux of emitted photons(umol/s):7.603 Fluo. and blue light ratio:13.73 Fluorescent eff.:283.9

Electrical parameters

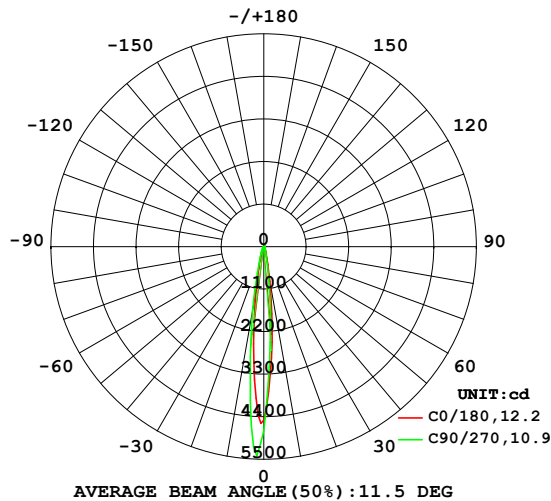
$V = 11.96 V$ $I = 0.4172 A$ $P = 4.653 W$ $PF = 0.9329$ $F=59.97 Hz$

LUMINAIRE PHOTOMETRIC TEST REPORT

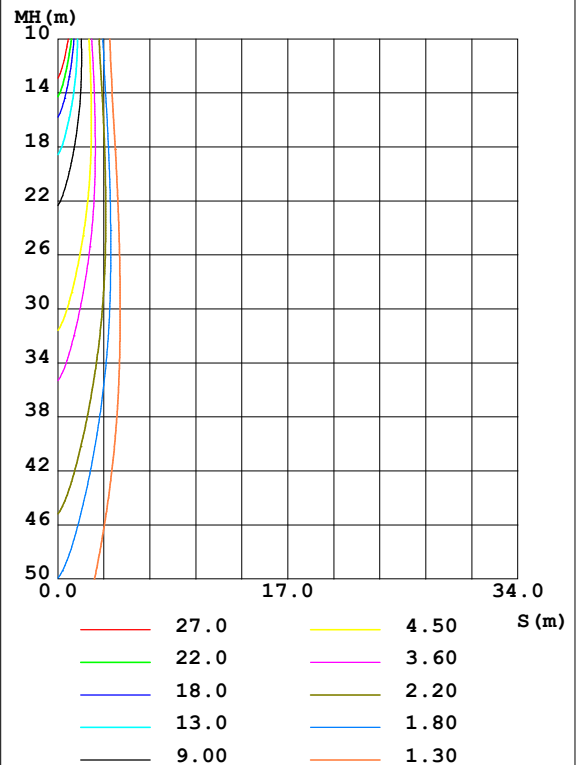
Test:U:12.09V I:0.4289A P:4.850W PF:0.9354 Freq:59.98Hz Lamp Flux:432.838x1 lm					
NAME: MR16-5-927-25D-DIM-G2			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.: RAB LIGHTING INC			SUR.:		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 89.24 lm/W
MODEL		I _{max} (cd)	5417	S/MH (C0/180)	0.23	
NOMINAL POWER (W)	5	LOR (%)	100.0	S/MH (C90/270)	0.28	
RATED VOLTAGE (V)	12	TOTAL FLUX (lm)	432.84	η UP, DN (C0-180)	0.0, 39.8	
NOMINAL FLUX (lm)	432.838	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 60.2	
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	910.2	646.4	1147	1674					0- 10	216.3	216.3	50,50
20	176.7	143.3	186.9	246.7					10- 20	120.8	337.1	77.9,77.9
30	60.36	45.50	62.36	80.80					20- 30	51.47	388.6	89.8,89.8
40	15.46	13.26	16.87	21.81					30- 40	21.16	409.7	94.7,94.7
50	8.651	7.781	8.434	9.544					40- 50	9.098	418.8	96.8,96.8
60	5.400	4.765	5.631	6.133					50- 60	6.212	425.0	98.2,98.2
70	3.442	2.971	3.661	3.964					60- 70	4.444	429.5	99.2,99.2
80	1.391	1.049	1.591	1.880					70- 80	2.622	432.1	99.8,99.8
90	0.0789	0.0552	0.0789	0.2368					80- 90	0.7254	432.8	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): 414.83 lm

%lum = 95.8%

%lamp = 95.8%

Conical surface Flux(120deg): 425.05 lm

%lum = 98.2%

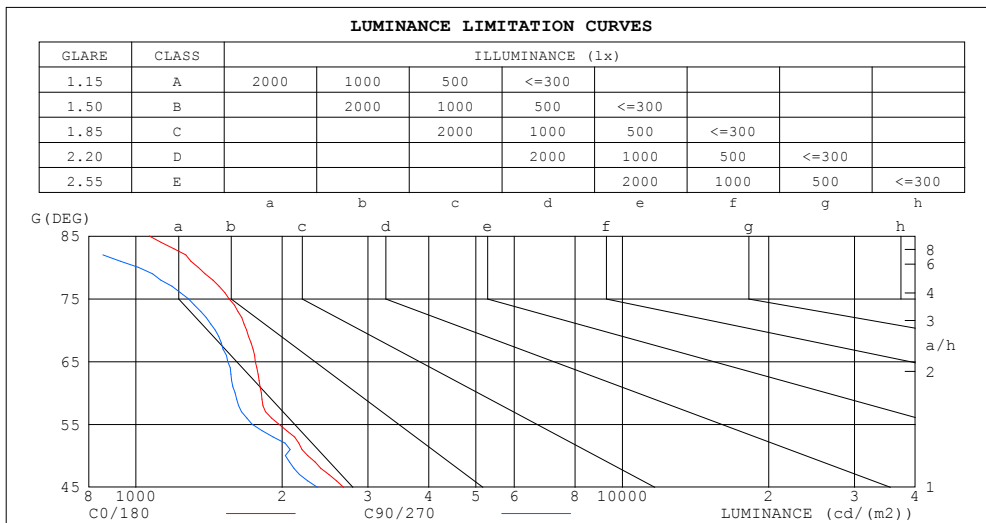
%lamp = 98.2%

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LUMINANCE LIMITATION CURVES

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NAME: MR16-5-927-25D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:



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%
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Remarks:

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	.140	.080	.025	.133	.076	.024	.121	.069	.022	.109	.063	.020	.099	.057	.018		
2.0	.129	.071	.022	.123	.068	.021	.113	.063	.020	.104	.058	.018	.095	.054	.017		
3.0	.119	.063	.019	.115	.061	.018	.106	.058	.017	.098	.054	.017	.091	.050	.016		
4.0	.111	.058	.017	.107	.056	.017	.100	.053	.016	.093	.050	.015	.087	.047	.014		
5.0	.103	.053	.015	.100	.051	.015	.094	.049	.014	.088	.047	.014	.083	.044	.013		
6.0	.097	.049	.014	.094	.048	.014	.089	.046	.013	.084	.044	.013	.079	.042	.012		
7.0	.091	.045	.013	.089	.044	.013	.084	.043	.012	.080	.041	.012	.076	.040	.012		
8.0	.086	.042	.012	.084	.041	.012	.080	.040	.011	.077	.039	.011	.073	.037	.011		
9.0	.082	.040	.011	.080	.039	.011	.077	.038	.011	.073	.037	.011	.070	.036	.010		
10.0	.078	.037	.010	.076	.037	.010	.073	.036	.010	.070	.035	.010	.068	.034	.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	.118	.129	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.135	.113	.096	.116	.098	.083	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.123	.098	.079	.105	.085	.069	.072	.059	.048	.042	.035	.029	.013	.011	.009	
5.0	.112	.086	.066	.096	.074	.057	.066	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.103	.075	.056	.088	.065	.049	.061	.046	.034	.035	.027	.020	.011	.009	.007	
7.0	.095	.067	.048	.082	.058	.042	.056	.041	.030	.033	.024	.018	.011	.008	.006	
8.0	.088	.060	.041	.076	.052	.036	.052	.037	.026	.030	.022	.015	.010	.007	.005	
9.0	.082	.055	.036	.071	.047	.031	.049	.033	.022	.029	.020	.013	.009	.006	.004	
10.0	.077	.050	.032	.066	.043	.028	.046	.030	.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:12.09V I:0.4289A P:4.850W PF:0.9354 Freq:59.98Hz Lamp Flux:432.838x1 lm										
NAME: MR16-5-927-25D-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	10.9	11.6	11.1	11.7	11.9	10.3	10.9	10.5	11.0	11.2
3H	12.0	12.6	12.2	12.8	13.0	11.3	11.9	11.5	12.1	12.3
4H	12.5	13.0	12.7	13.3	13.5	11.7	12.3	12.0	12.5	12.7
6H	12.8	13.3	13.1	13.6	13.8	12.0	12.5	12.3	12.8	13.0
8H	12.9	13.4	13.2	13.7	13.9	12.0	12.6	12.3	12.8	13.1
12H	12.9	13.5	13.2	13.7	14.0	12.0	12.5	12.3	12.8	13.1
4H 2H	11.3	11.9	11.5	12.1	12.3	10.7	11.3	11.0	11.5	11.7
3H	12.6	13.1	12.9	13.3	13.6	12.0	12.5	12.3	12.8	13.0
4H	13.1	13.6	13.5	13.9	14.2	12.5	13.0	12.8	13.3	13.6
6H	13.6	14.0	13.9	14.3	14.7	12.8	13.3	13.2	13.6	13.9
8H	13.7	14.1	14.1	14.4	14.8	12.9	13.3	13.3	13.7	14.0
12H	13.8	14.1	14.2	14.5	14.9	12.9	13.3	13.3	13.6	14.0
8H 4H	13.3	13.7	13.7	14.0	14.4	12.7	13.1	13.1	13.4	13.8
6H	13.8	14.1	14.2	14.5	14.9	13.1	13.5	13.6	13.9	14.3
8H	14.0	14.3	14.4	14.7	15.1	13.3	13.6	13.7	14.0	14.4
12H	14.1	14.4	14.6	14.8	15.3	13.3	13.5	13.8	14.0	14.4
12H 4H	13.3	13.6	13.7	14.0	14.4	12.7	13.1	13.1	13.4	13.8
6H	13.8	14.1	14.3	14.5	15.0	13.2	13.5	13.6	13.9	14.3
8H	14.0	14.3	14.5	14.7	15.2	13.3	13.6	13.8	14.0	14.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.5					+ 0.4 / - 0.5				
1.5H	+ 0.8 / - 0.3					+ 0.4 / - 0.3				
2.0H	+ 0.6 / - 0.4					+ 0.5 / - 0.6				

CIE Pub.117, 432.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -2.9)

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:

UTILIZATION FACTORS TABLE

Test:U:12.09V I:0.4289A P:4.850W PF:0.9354 Freq:59.98Hz Lamp Flux:432.838x1 lm		
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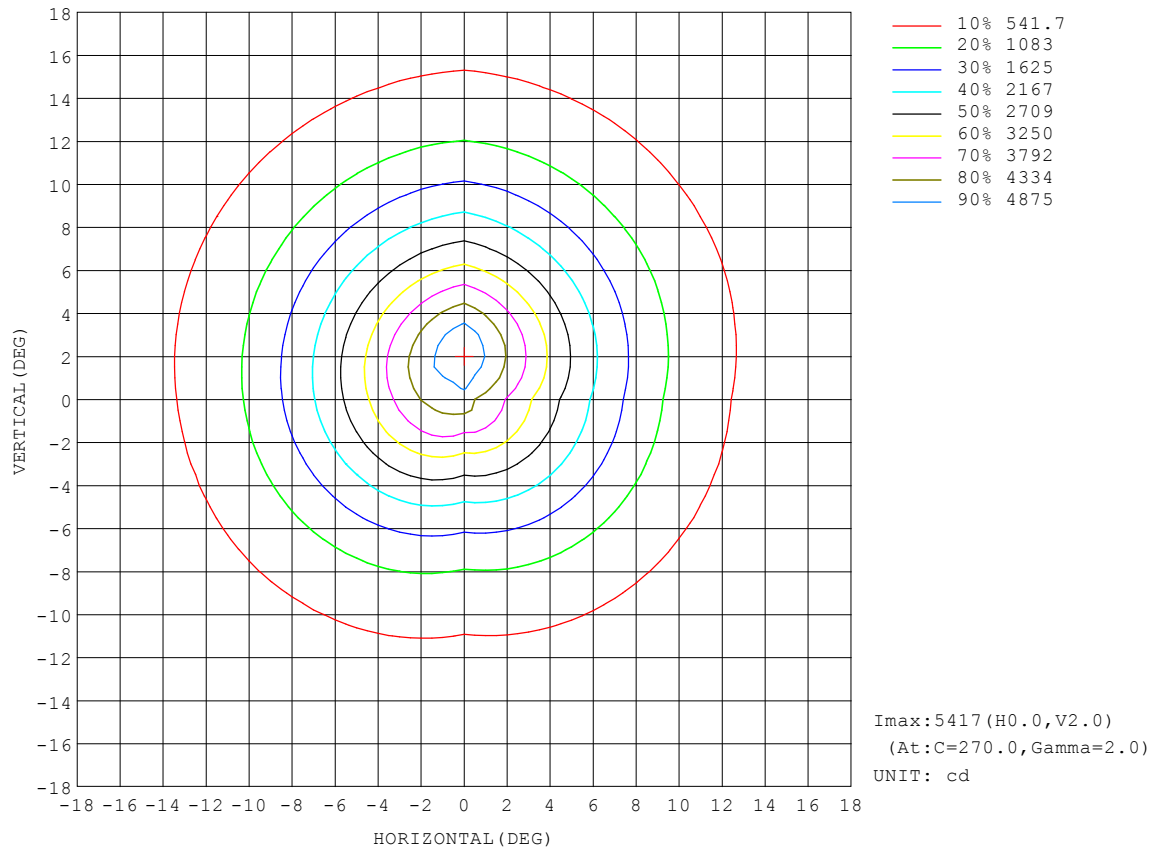
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	82	78	75
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	103	98	95	102	98	95	100	97	94	90
1.50	106	101	98	105	101	98	103	99	97	92
2.00	109	104	101	107	103	101	104	101	99	94
2.50	110	107	104	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	108	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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SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

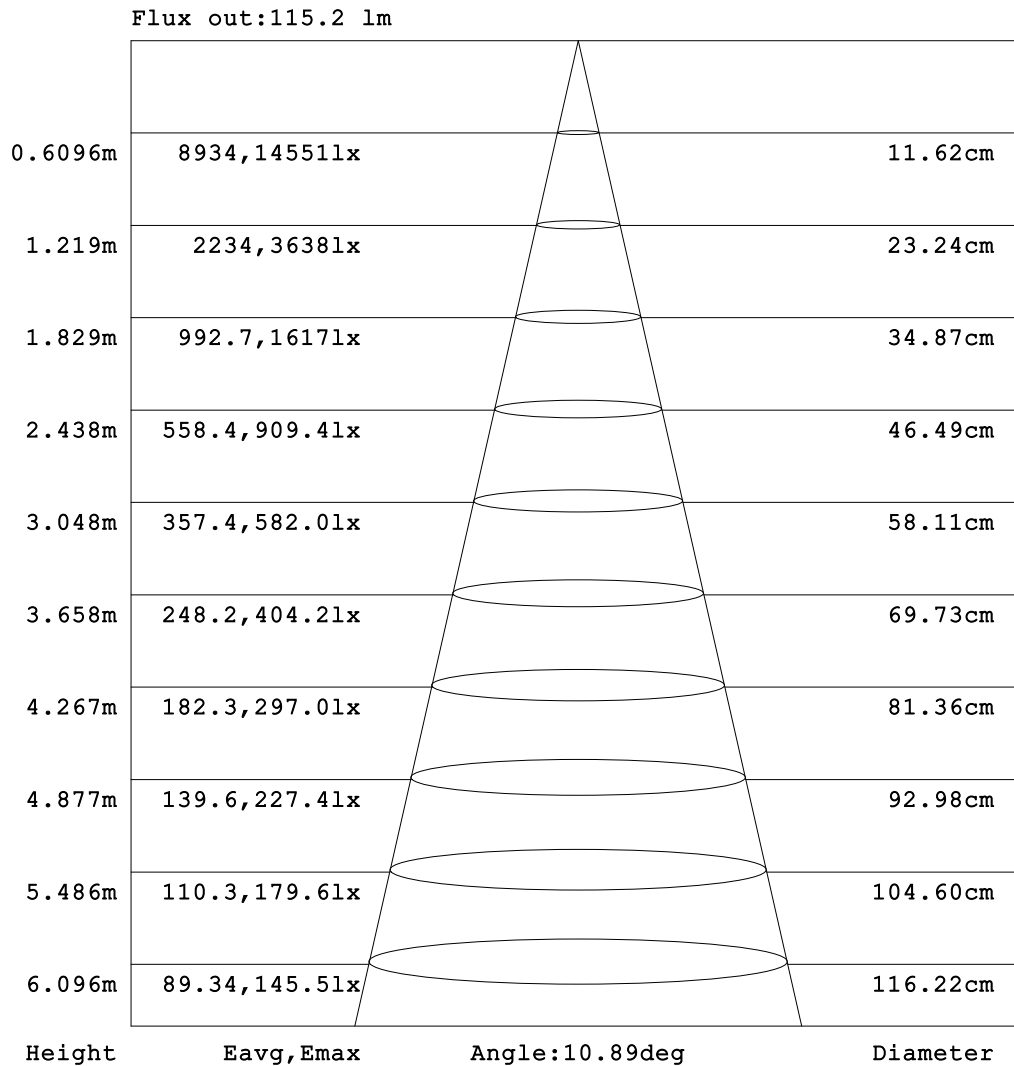


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AAI Figure

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

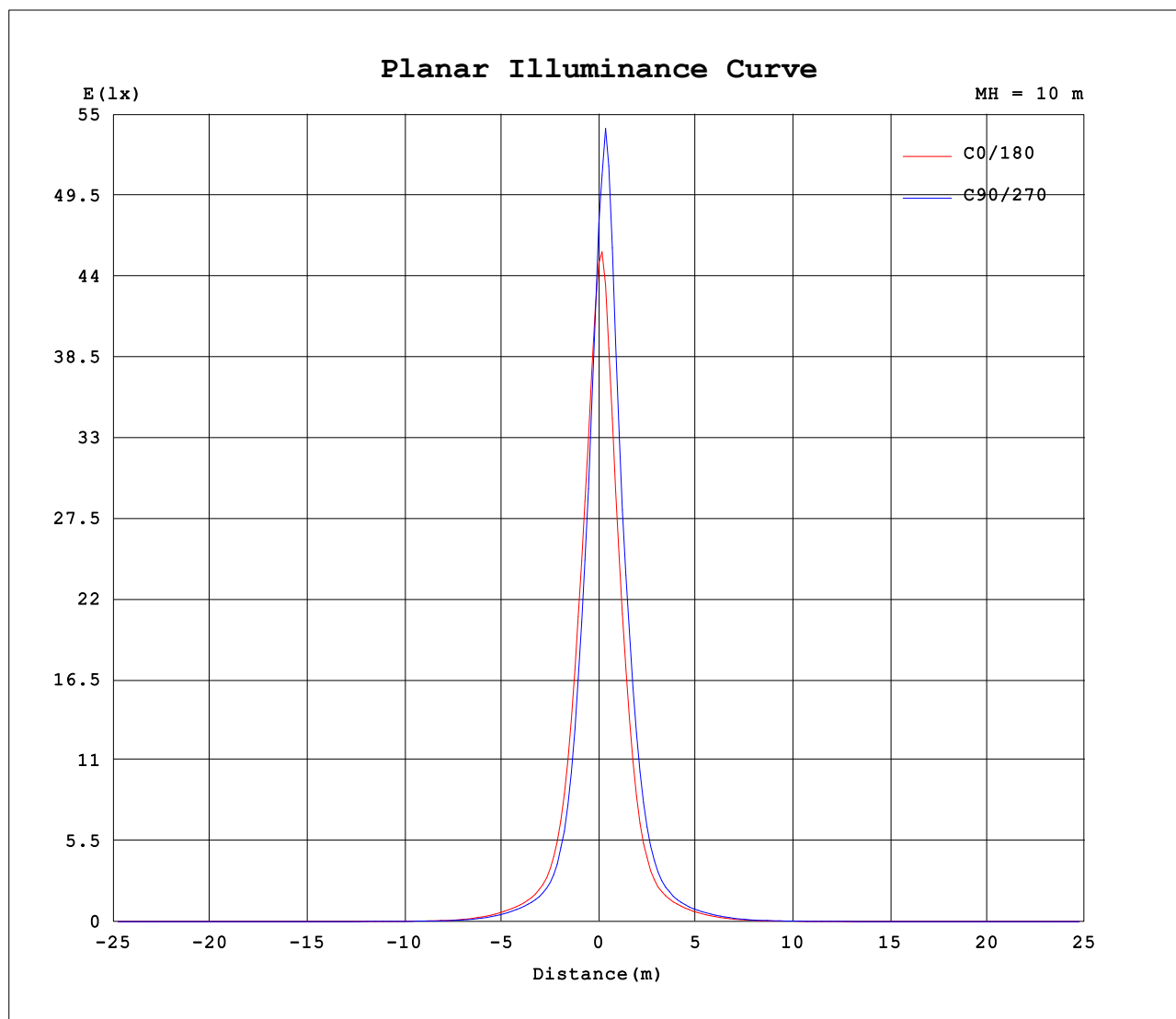


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Planar Illuminance Curve



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