

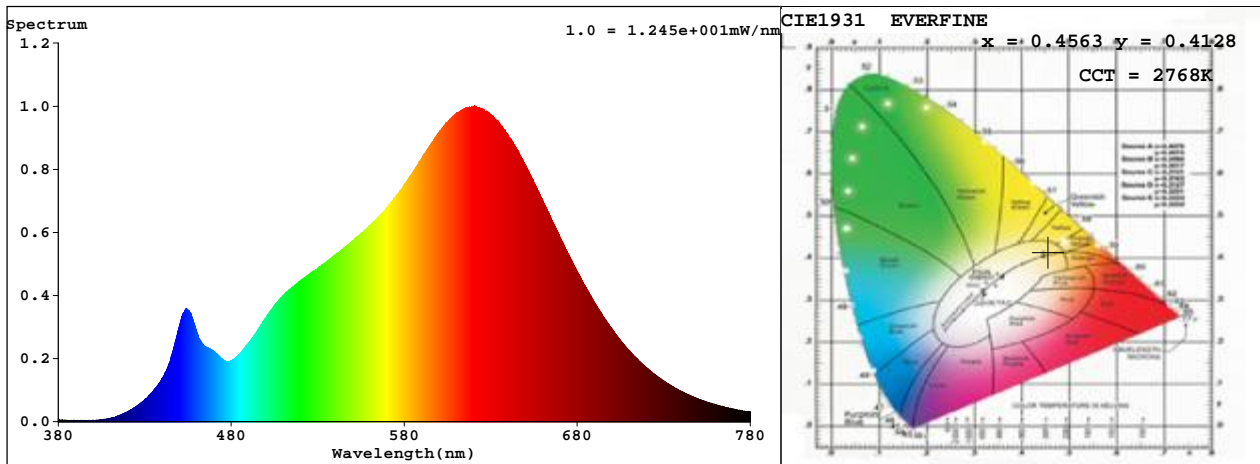
Spectrum Test Report

Sample :	Date :	2019-11-11 14:04:46
Specification : MR16-7.5-927-15D-DIM-G2	Sam. Status :	
Sample No. :	Instrument :	HaasSuite(EVERFINE)
Manufacturer : RAB LIGHTING INC	Test by :	
	Assessor :	damin

Test Condition

Temperature : 22.2Deg	RH : 65.0%
WL Range : 380nm-780nm	IP : 51947 (79%)
Test Mode : Fast Test	T : 87 ms
	Sensitivity : High

Spectrum



Spectral Distribution

CIE1931 Chromaticity Diagram

Colorimetric Parameters

Chromaticity Coordinate: $x = 0.4563$ $y = 0.4128$ / $u' = 0.2592$ $v' = 0.5276$ ($duv=1.13e-03$)

CCT= 2768K Prcp WL: Ld=583.5nm Purity=60.9%

Peak WL: Lp=621nm FWHM: =144.4nm Ratio:R=25.8% G=71.6% B=2.5%

Render Index: Ra = 92.4 CRI = 89.7 AvgR = 89.5

R1 =92 R2 =96 R3 =99 R4 =93 R5 =92 R6 =97 R7 =91

R8 =79 R9 =53 R10=91 R11=94 R12=85 R13=93 R14=99 R15=87

WHITE:ANSI_2700K

Photometric & Radiometric Parameters

Flux = 582.89 lm Eff. : 89.05 lm/W Fe = 1.9978 W

Flux of emitted photons(umol/s):9.9507 Flu. and blue light ratio:12.99 Fluorescent eff.:263.6

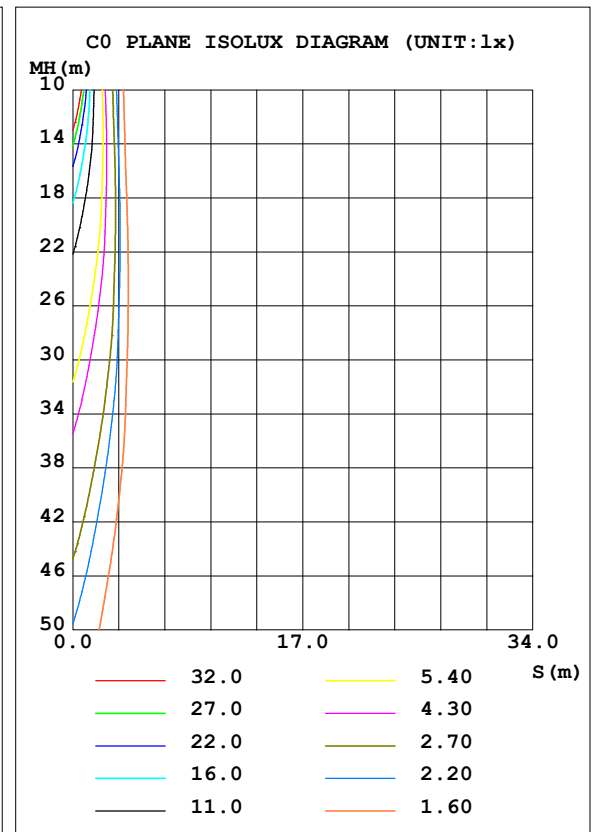
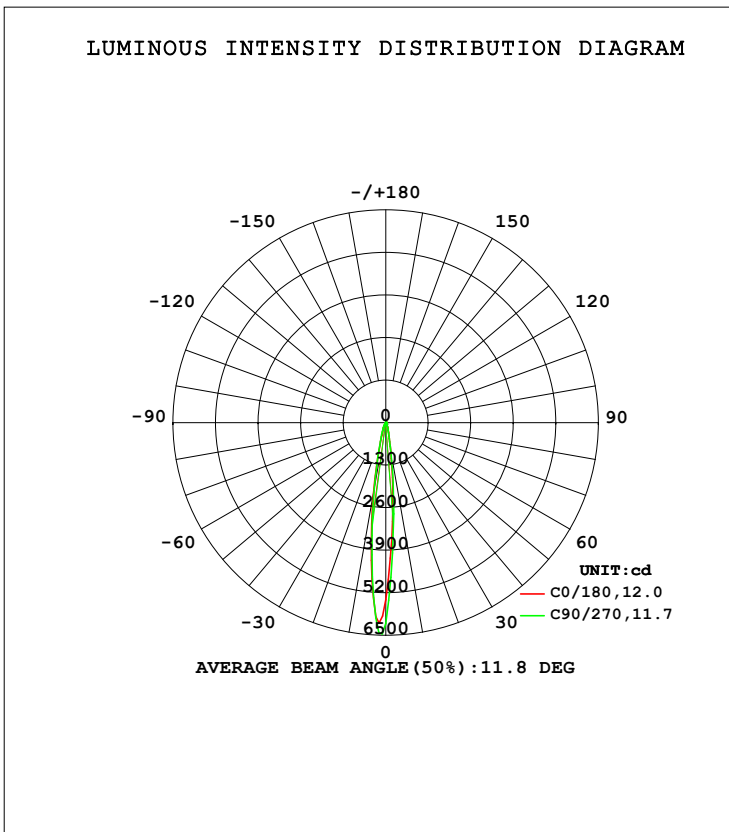
Electrical parameters

V = 11.88 V I = 0.5924 A P = 6.546 W PF = 0.9299 F=59.97 Hz

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:12.06V I:0.5943A P:6.660W PF:0.9292 Freq:59.98Hz Lamp Flux:580.798x1 lm		
NAME: MR16-7.5-927-15D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 87.20 lm/W			
MODEL		Imax (cd)	6454	S/MH (C0/180)	0.30
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	0.27
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	580.80	η UP, DN (C0-180)	0.0, 35.3
NOMINAL FLUX (lm)	580.798	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 64.7
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Testing Room
 Test Date: 2019-11-06

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	903.2	925.5	2158	2063				0- 10	281.8	281.8	48.5,48.5
20	204.7	195.4	310.1	344.7				10- 20	169.0	450.8	77.6,77.6
30	64.44	58.65	104.7	119.4				20- 30	72.08	522.9	90,90
40	16.94	16.34	24.18	30.32				30- 40	28.92	551.8	95,95
50	9.483	9.090	11.59	12.43				40- 50	11.33	563.1	97,97
60	6.370	6.106	7.378	7.696				50- 60	7.733	570.9	98.3,98.3
70	3.956	3.857	4.915	5.194				60- 70	5.622	576.5	99.3,99.3
80	1.430	1.403	2.328	2.451				70- 80	3.360	579.9	99.8,99.8
90	0.0710	0.0552	0.2762	0.2525				80- 90	0.9460	580.8	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): 558.21 lm

%lum = 96.1%

%lamp = 96.1%

Conical surface Flux(120deg): 570.87 lm

%lum = 98.3%

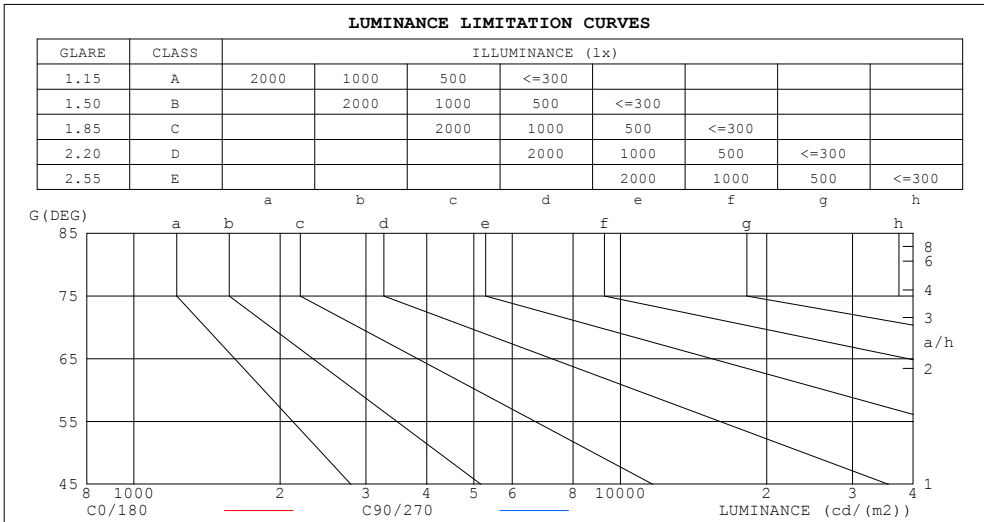
%lamp = 98.3%

C Range: 0 - 360DEG
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 Test Speed: HIGH
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 Operators:Testing Room
 Test Date:2019-11-06

γ Range: 0 - 90DEG
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LUMINANCE LIMITATION CURVES

Test:U:12.06V I:0.5943A P:6.660W PF:0.9292 Freq:59.98Hz Lamp Flux:580.798x1 lm		
NAME: MR16-7.5-927-15D-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	15
80	27	26
75	33	33
70	38	37
65	40	39
60	41	40
55	43	42
50	48	46
45	54	55

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WEC AND CCEC

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NAME: MR16-7.5-927-15D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: RAB LIGHTING INC	SUR.:	Shielding Angle:

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.110	.063	.020	.099	.057	.019	
2.0	.129	.071	.022	.124	.068	.021	.114	.063	.020	.104	.058	.018	.095	.054	.017	
3.0	.120	.064	.019	.115	.062	.019	.107	.058	.018	.099	.054	.017	.091	.051	.016	
4.0	.111	.058	.017	.107	.056	.017	.100	.053	.016	.093	.050	.015	.087	.047	.014	
5.0	.104	.053	.015	.101	.052	.015	.094	.049	.014	.089	.047	.014	.083	.045	.013	
6.0	.097	.049	.014	.095	.048	.014	.089	.046	.013	.085	.044	.013	.080	.042	.012	
7.0	.092	.045	.013	.089	.045	.013	.085	.043	.012	.081	.041	.012	.077	.040	.012	
8.0	.087	.042	.012	.085	.042	.012	.081	.040	.012	.077	.039	.011	.074	.038	.011	
9.0	.082	.040	.011	.081	.039	.011	.077	.038	.011	.074	.037	.011	.071	.036	.010	
10.0	.079	.038	.010	.077	.037	.010	.074	.036	.010	.071	.035	.010	.068	.034	.010	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.136	.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	.076	.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	.053	.037	.026	.031	.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:2019-11-06

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:12.06V I:0.5943A P:6.660W PF:0.9292 Freq:59.98Hz Lamp Flux:580.798x1 lm										
NAME: MR16-7.5-927-15D-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	-3.9	-3.3	-3.7	-3.1	-3.0	-4.1	-3.5	-3.9	-3.3	-3.2
3H	-2.8	-2.2	-2.6	-2.0	-1.8	-3.0	-2.4	-2.7	-2.2	-2.0
4H	-2.3	-1.8	-2.1	-1.6	-1.3	-2.5	-1.9	-2.2	-1.7	-1.5
6H	-2.1	-1.5	-1.8	-1.3	-1.0	-2.2	-1.7	-1.9	-1.4	-1.2
8H	-2.0	-1.5	-1.7	-1.2	-1.0	-2.2	-1.6	-1.9	-1.4	-1.1
12H	-2.0	-1.5	-1.7	-1.2	-1.0	-2.2	-1.6	-1.8	-1.4	-1.1
4H 2H	-3.5	-2.9	-3.2	-2.7	-2.5	-3.6	-3.1	-3.4	-2.9	-2.6
3H	-2.2	-1.6	-1.9	-1.4	-1.1	-2.3	-1.8	-2.0	-1.5	-1.3
4H	-1.6	-1.1	-1.3	-0.8	-0.5	-1.7	-1.3	-1.4	-1.0	-0.7
6H	-1.2	-0.8	-0.9	-0.5	-0.1	-1.4	-0.9	-1.0	-0.6	-0.3
8H	-1.1	-0.8	-0.8	-0.4	-0.1	-1.3	-0.9	-0.9	-0.5	-0.2
12H	-1.1	-0.8	-0.7	-0.4	-0.0	-1.3	-0.9	-0.9	-0.5	-0.2
8H 4H	-1.4	-1.0	-1.0	-0.7	-0.3	-1.6	-1.2	-1.2	-0.8	-0.5
6H	-1.0	-0.7	-0.6	-0.3	0.2	-1.1	-0.8	-0.7	-0.4	0.0
8H	-0.9	-0.6	-0.4	-0.2	0.3	-1.0	-0.7	-0.5	-0.3	0.2
12H	-0.8	-0.6	-0.3	-0.1	0.3	-0.9	-0.7	-0.5	-0.2	0.2
12H 4H	-1.5	-1.1	-1.0	-0.7	-0.3	-1.6	-1.2	-1.2	-0.8	-0.5
6H	-1.0	-0.7	-0.5	-0.3	0.2	-1.1	-0.8	-0.7	-0.4	0.0
8H	-0.8	-0.6	-0.4	-0.1	0.3	-1.0	-0.7	-0.5	-0.3	0.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.5					+ 0.3 / - 0.4				
1.5H	+ 0.6 / - 0.2					+ 0.5 / - 0.3				
2.0H	+ 0.4 / - 0.3					+ 0.4 / - 0.4				

CIE Pub.117, 580.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.9)

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
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 Operators:Testing Room
 Test Date:2019-11-06

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:12.06V I:0.5943A P:6.660W PF:0.9292 Freq:59.98Hz Lamp Flux:580.798x1 lm		
NAME: MR16-7.5-927-15D-DIM-G2	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
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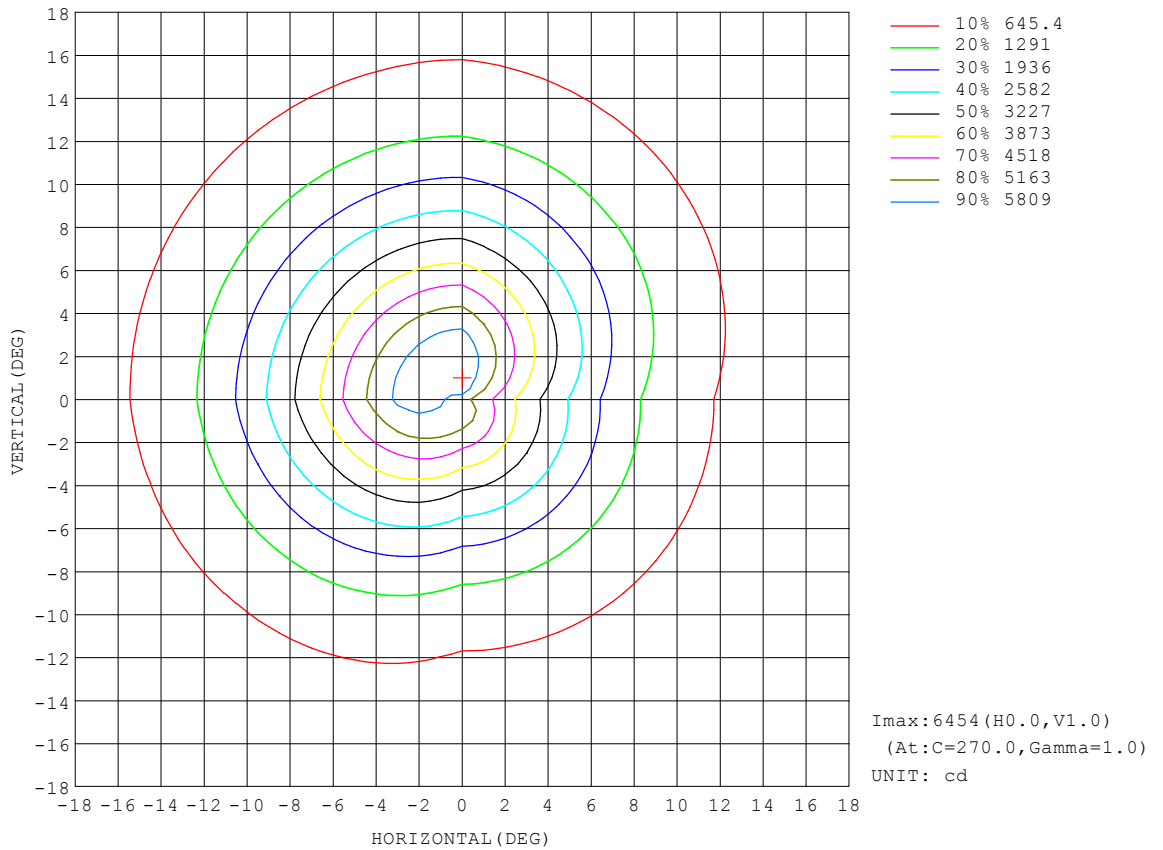
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	89	82	79	88	82	79	87	82	78	75
0.80	96	90	86	95	90	86	94	89	86	82
1.00	100	94	91	99	94	91	97	94	90	86
1.25	104	98	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	101	107	104	101	105	102	99	94
2.50	110	107	104	109	105	103	106	103	101	95
3.00	112	109	106	110	107	105	107	104	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	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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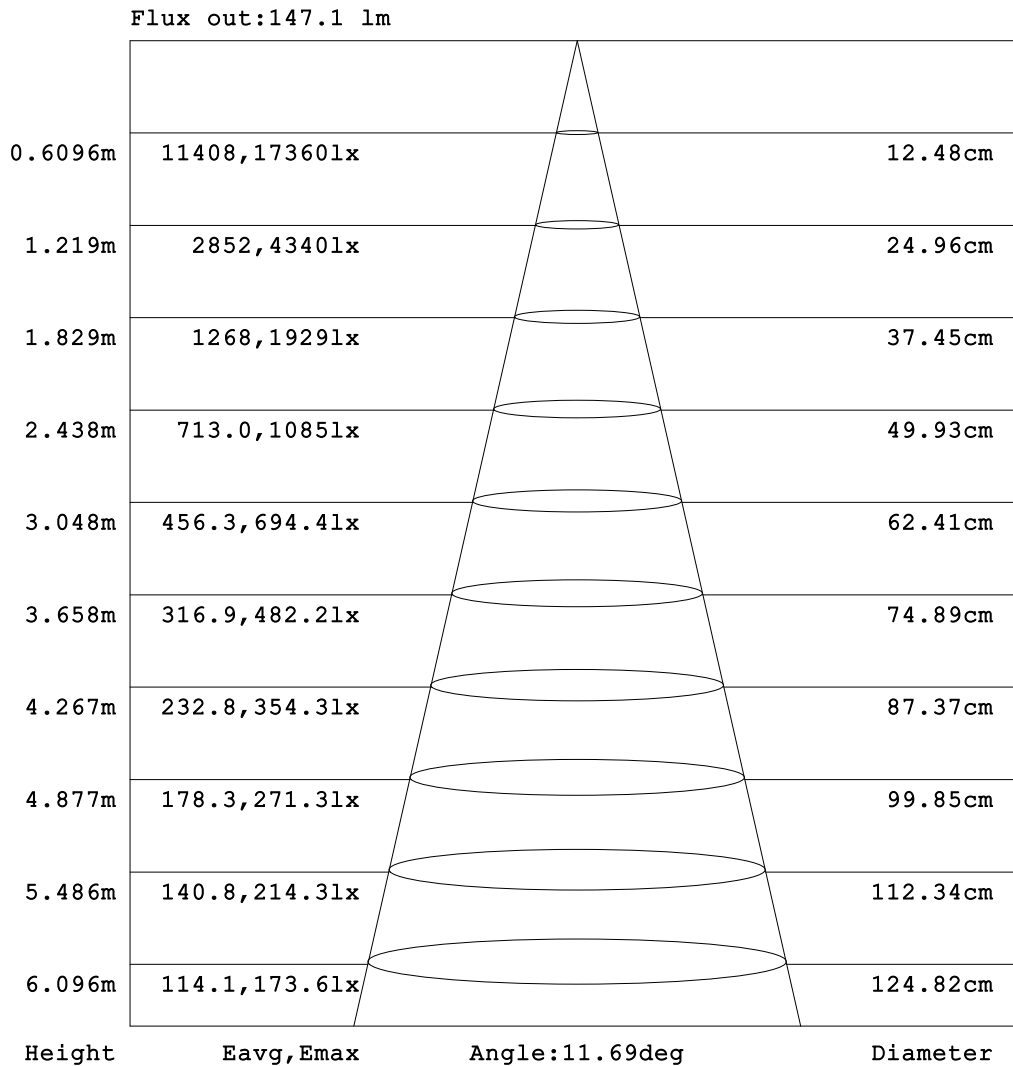


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AAI Figure

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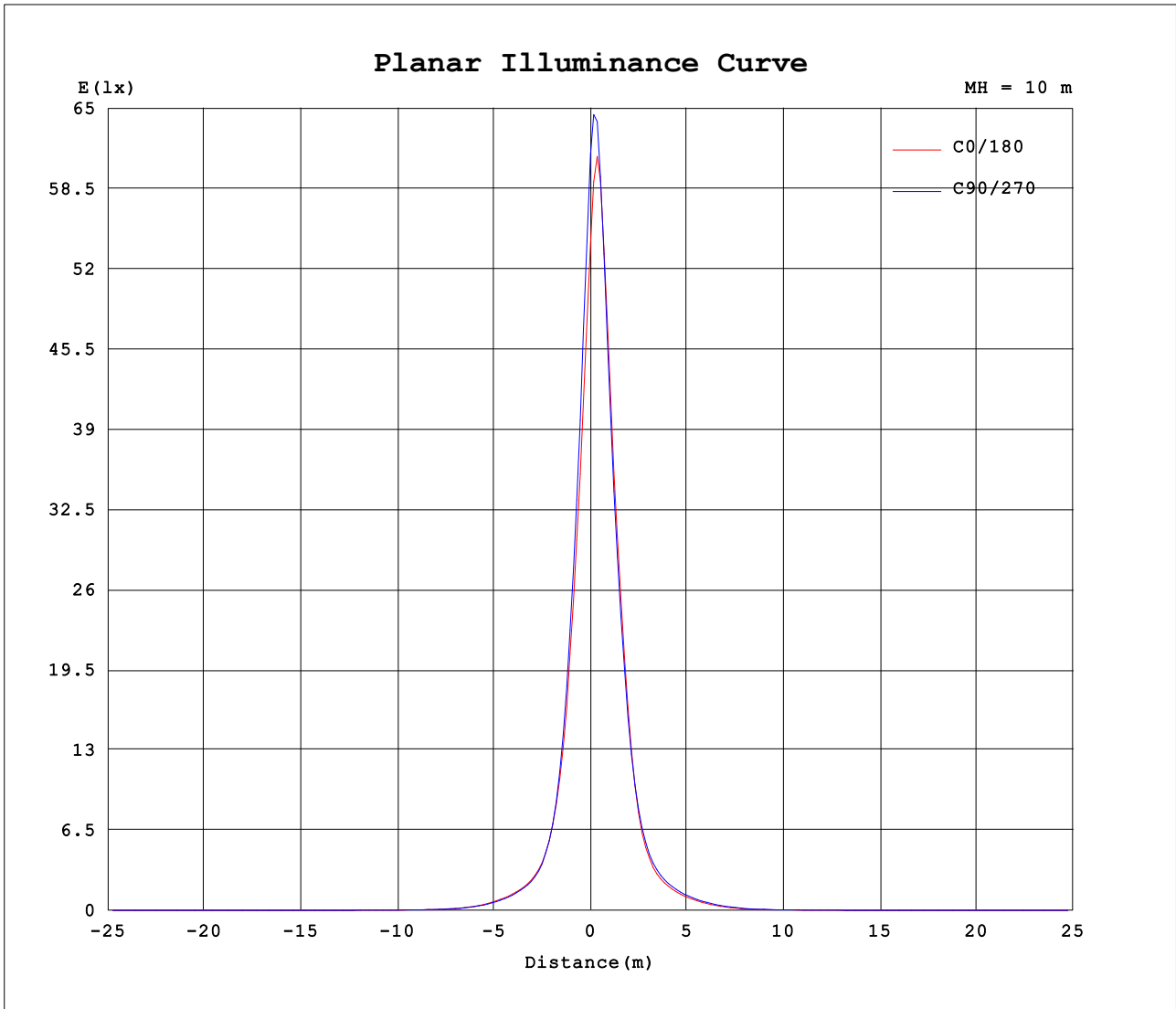


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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Planar Illuminance Curve



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LUMINOUS DISTRIBUTION INTENSITY DATA

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SPEC.:	DIM.:	SERIAL No.:
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Table--1

UNIT: cd

C (DEG) γ (DEG)	0	90	180	270																		
0	5406	6131	5406	6131																		
5	2546	2805	4863	4718																		
10	903	926	2158	2063																		
15	369	357	701	745																		
20	205	195	310	345																		
25	122	112	180	202																		
30	64.4	58.6	105	119																		
35	31.3	28.9	52.2	62.2																		
40	16.9	16.3	24.2	30.3																		
45	11.8	11.9	15.1	17.3																		
50	9.48	9.09	11.6	12.4																		
55	7.63	7.40	9.46	10.1																		
60	6.37	6.11	7.38	7.70																		
65	5.20	5.02	6.11	6.40																		
70	3.96	3.86	4.92	5.19																		
75	2.66	2.60	3.64	3.85																		
80	1.43	1.40	2.33	2.45																		
85	0.44	0.39	1.13	1.20																		
90	0.07	0.06	0.28	0.25																		

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