

Low Voltage Track System Module ML26-RS40-16W-930-45



Light Output Ratio:	100.0%	
Luminaire Power:	16.43 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.70	fine grid method.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2019-12-03

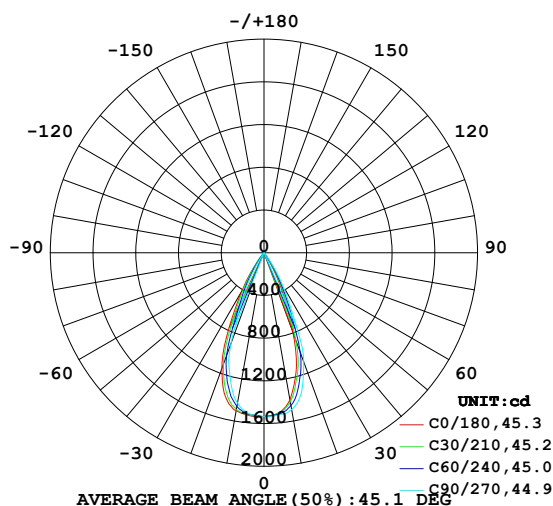
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 56%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

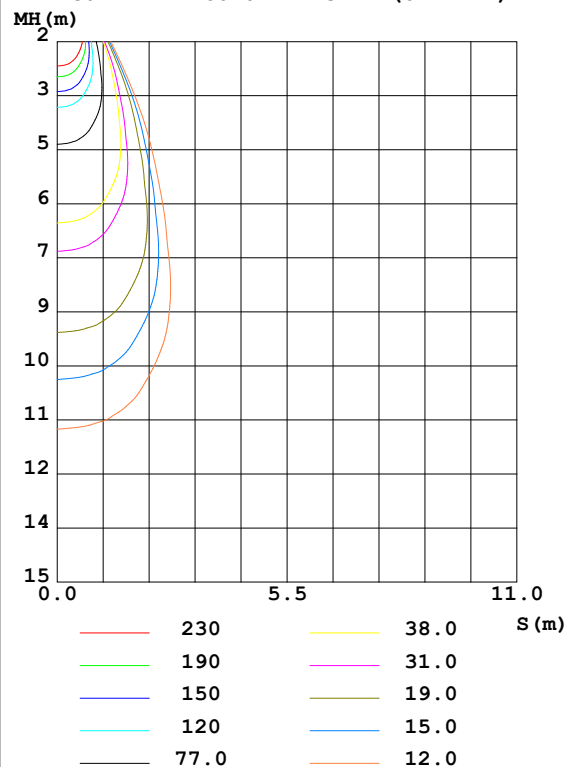
Test:U:48.00V I:0.3423A P:16.43W PF:1.000 Freq:0Hz Lamp Flux:843.759x1 lm		
NAME: ML26-RS40-16W-930-45	TYPE:Low Voltage Track System Module	
SPEC.:3000K	DIM.: ϕ 40mm*H70mm	
MFR.: E-LITE LIGHTING Co.,Ltd.		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 51.35 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	1543	S/MH (C0/180)	0.75
NOMINAL POWER (W)	16	LOR (%)	100.0	S/MH (C90/270)	0.64
RATED VOLTAGE (V)	48	TOTAL FLUX (lm)	843.76	η UP, DN (C0-180)	0.0, 52.4
NOMINAL FLUX (lm)	843.759	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 47.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	48	η down (%)	100.0	CIBSE SHR MAX	0.70

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
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ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1399	1433	1492	1510	1502	1471	1430	1396	0- 10	143.1	143.1	17,17
20	790.0	942.7	1090	1187	1155	1063	905.5	762.2	10- 20	351.0	494.1	58.6,58.6
30	167.0	250.7	346.8	432.5	418.0	320.9	218.5	156.6	20- 30	270.3	764.4	90.6,90.6
40	11.13	14.81	21.75	39.38	36.97	21.36	12.68	10.21	30- 40	69.29	833.7	98.8,98.8
50	3.280	3.976	4.941	5.871	5.829	4.538	3.442	3.043	40- 50	7.109	840.8	99.7,99.7
60	0.8363	0.9529	1.259	1.580	1.561	1.086	0.7289	0.7282	50- 60	2.149	843.0	99.9,99.9
70	0.2336	0.2486	0.3284	0.3785	0.3788	0.2775	0.1484	0.1864	60- 70	0.5738	843.6	100,100
80	0.0720	0.0611	0.0985	0.0941	0.0957	0.0787	0.0328	0.0504	70- 80	0.1583	843.7	100,100
90	0.0414	0.0393	0.0328	0.0372	0.0305	0.0218	0.0197	0.0219	80- 90	0.0463	843.8	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): 838.43 lm

%lum = 99.4%

%lamp = 99.4%

Conical surface Flux(120deg): 842.98 lm

%lum = 99.9%

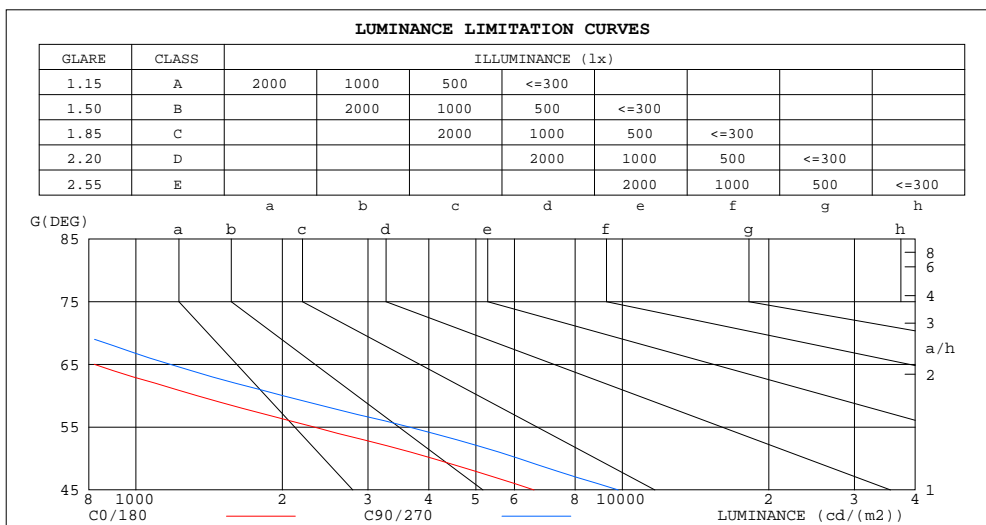
%lamp = 99.9%

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Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

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SPEC.:3000K	DIM.: $\phi 40\text{mm} \times H70\text{mm}$	
MFR.: E-LITE LIGHTING Co.,Ltd.		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	400	500
80	331	452
75	384	539
70	545	764
65	821	1176
60	1335	2005
55	2326	3648
50	4074	6121
45	6585	9805

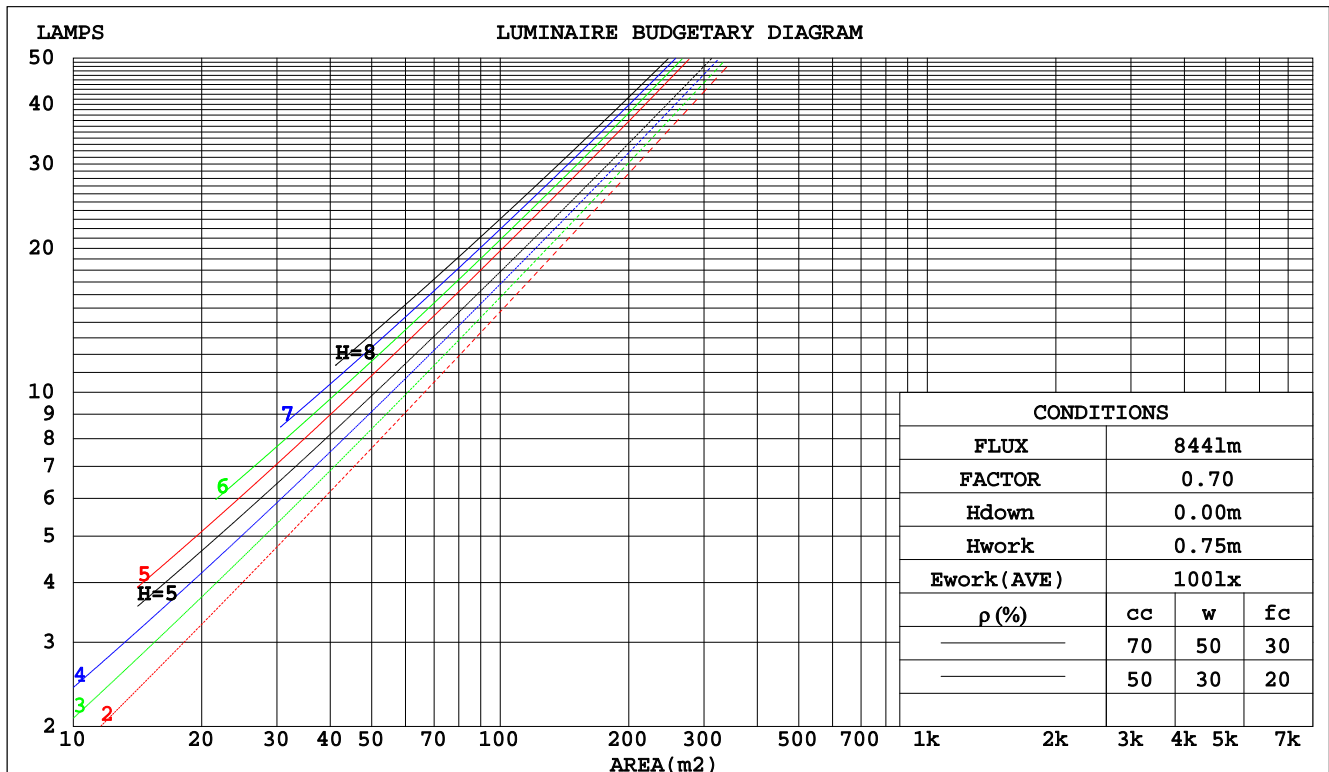
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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						Coefficients of Utilization(CU)									
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	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.06	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.96	.92	.99	.95	.92	.96	.93	.90	.94	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.87	.94	.89	.86	.92	.88	.85	.90	.87	.84	.88	.85	.83	.82
5.0	.90	.85	.82	.89	.85	.81	.88	.84	.81	.86	.83	.80	.84	.82	.79	.78
6.0	.86	.81	.77	.85	.80	.77	.84	.80	.76	.82	.79	.76	.81	.78	.75	.74
7.0	.82	.77	.73	.81	.77	.73	.80	.76	.73	.79	.75	.72	.78	.75	.72	.71
8.0	.78	.73	.70	.78	.73	.70	.77	.72	.69	.76	.72	.69	.75	.71	.69	.68
9.0	.75	.70	.67	.74	.70	.67	.74	.69	.66	.73	.69	.66	.72	.68	.66	.65
10.0	.72	.67	.64	.71	.67	.64	.71	.66	.63	.70	.66	.63	.69	.66	.63	.62



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WEC AND CCEC

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ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.156	.088	.028	.149	.085	.027	.136	.078	.025	.125	.072	.023	.114	.066	.021		
2.0	.147	.080	.025	.141	.078	.024	.131	.073	.023	.121	.068	.021	.112	.063	.020		
3.0	.138	.074	.022	.134	.072	.022	.125	.068	.021	.117	.064	.020	.109	.061	.019		
4.0	.131	.068	.020	.127	.067	.020	.120	.064	.019	.113	.061	.018	.106	.058	.018		
5.0	.125	.064	.018	.121	.062	.018	.115	.060	.018	.109	.057	.017	.103	.055	.017		
6.0	.119	.060	.017	.116	.059	.017	.110	.057	.016	.105	.055	.016	.100	.053	.016		
7.0	.114	.056	.016	.111	.055	.016	.106	.054	.015	.102	.052	.015	.097	.051	.015		
8.0	.109	.053	.015	.107	.053	.015	.102	.051	.015	.098	.050	.014	.094	.049	.014		
9.0	.105	.051	.014	.103	.050	.014	.099	.049	.014	.095	.048	.014	.092	.047	.013		
10.0	.101	.048	.013	.099	.048	.013	.096	.047	.013	.092	.046	.013	.089	.045	.013		

ρ_{cc}	80%			70%			50%			30%			10%			0	
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
ρ_{fc}	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	.170	.158	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.153	.133	.116	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.056	.047	.040	.033	.015	.013	.011		
4.0	.128	.098	.076	.110	.085	.066	.075	.059	.046	.044	.035	.027	.014	.011	.009		
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008		
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006		
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.016	.012	.008	.005		
8.0	.097	.062	.038	.084	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005		
9.0	.092	.057	.033	.079	.050	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004		
10.0	.088	.053	.029	.076	.046	.026	.052	.032	.018	.031	.019	.011	.010	.006	.004		

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γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
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Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.3423A P:16.43W PF:1.000 Freq:0Hz Lamp Flux:843.759x1 lm										
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SPEC.:3000K					DIM.: ϕ 40mm*H70mm					
MFR.: E-LITE LIGHTING Co.,Ltd.										
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	12.2	13.0	12.5	13.2	13.4	17.3	18.1	17.6	18.3	18.4
3H	12.1	12.8	12.3	13.0	13.2	17.2	17.9	17.4	18.1	18.3
4H	12.0	12.7	12.3	12.9	13.1	17.1	17.8	17.4	18.0	18.2
6H	11.9	12.6	12.2	12.8	13.1	17.0	17.7	17.3	17.9	18.1
8H	11.9	12.5	12.2	12.8	13.0	17.0	17.6	17.3	17.8	18.1
12H	11.8	12.4	12.2	12.7	13.0	16.9	17.5	17.2	17.8	18.1
4H 2H	12.0	12.7	12.3	12.9	13.1	17.1	17.8	17.4	18.0	18.2
3H	11.9	12.5	12.2	12.7	13.0	16.9	17.5	17.2	17.8	18.1
4H	11.8	12.3	12.1	12.6	12.9	16.8	17.4	17.2	17.7	18.0
6H	11.7	12.1	12.0	12.5	12.8	16.7	17.2	17.1	17.5	17.9
8H	11.6	12.1	12.0	12.4	12.8	16.7	17.1	17.1	17.5	17.8
12H	11.6	12.0	12.0	12.3	12.7	16.6	17.0	17.0	17.4	17.8
8H 4H	11.6	12.1	12.0	12.4	12.8	16.7	17.1	17.1	17.5	17.8
6H	11.5	11.9	11.9	12.3	12.7	16.6	16.9	17.0	17.3	17.7
8H	11.5	11.8	11.9	12.2	12.6	16.5	16.8	17.0	17.3	17.7
12H	11.4	11.7	11.9	12.1	12.6	16.5	16.7	16.9	17.2	17.6
12H 4H	11.6	12.0	12.0	12.3	12.7	16.6	17.0	17.0	17.4	17.8
6H	11.5	11.8	11.9	12.2	12.6	16.5	16.8	17.0	17.3	17.7
8H	11.4	11.7	11.9	12.1	12.6	16.5	16.7	16.9	17.2	17.6
Variations with the observer position at spacings:										
S = 1.0H	+ 3.3 / - 7.8					+ 5.7 / -10.5				
1.5H	+ 5.1 / - 5.5					+ 8.1 / - 8.8				
2.0H	+ 4.5 / - 5.8					+ 5.2 / - 6.6				

CIE Pub.117, 843.8 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = -0.6$)

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UTILIZATION FACTORS TABLE

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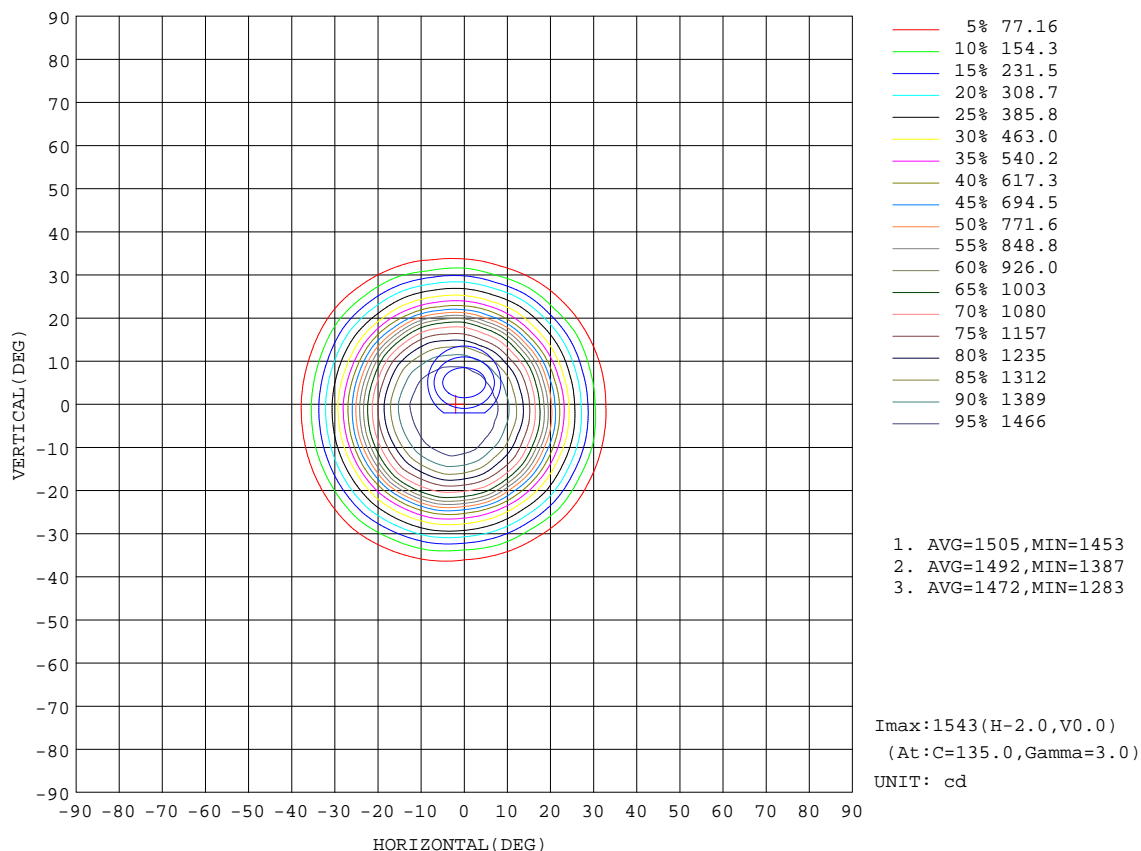
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	82	90	85	82	90	85	81	78
0.80	98	93	89	97	92	89	96	92	89	85
1.00	102	97	93	101	96	93	99	96	93	89
1.25	105	100	97	104	100	97	102	99	96	92
1.50	108	103	100	106	103	100	104	101	99	95
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	107	104	107	104	102	97
3.00	113	110	107	111	108	106	108	105	104	98
4.00	115	112	110	112	110	109	109	107	106	99
5.00	116	114	112	114	112	110	110	108	107	100
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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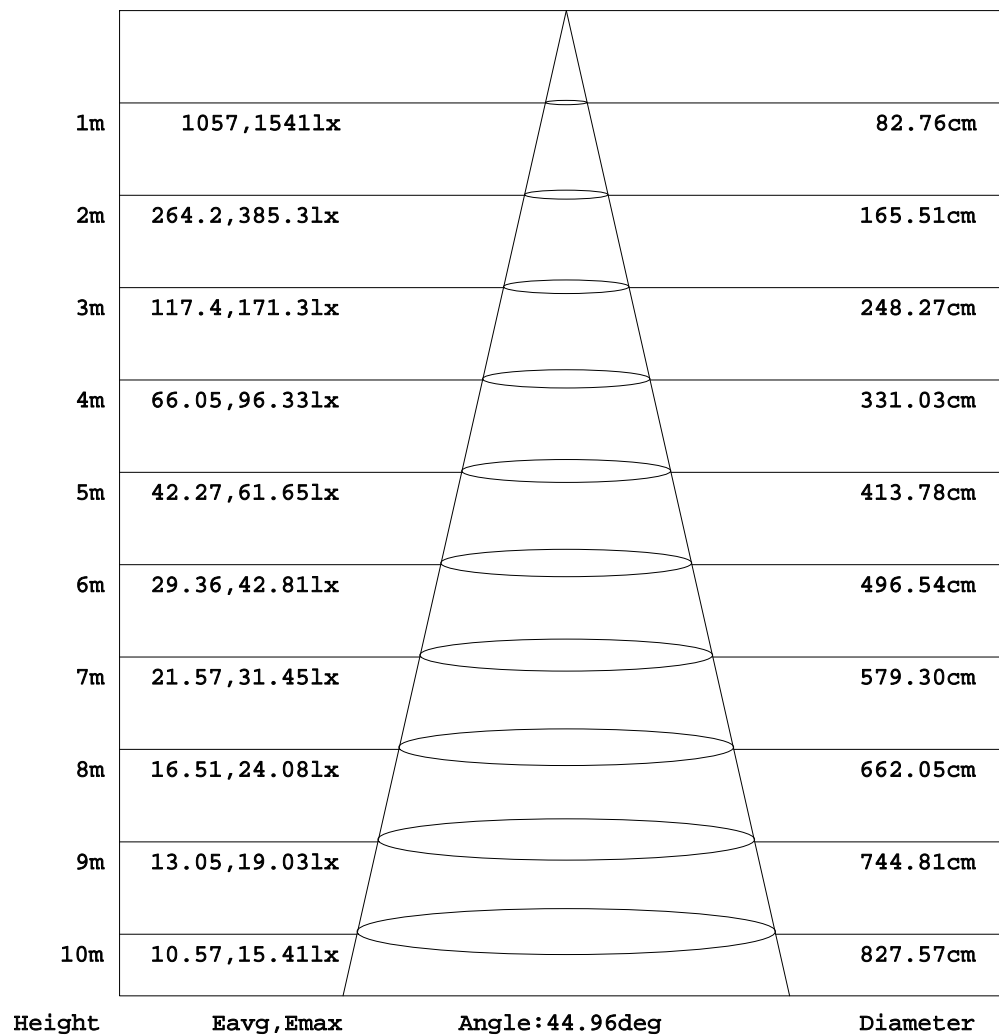
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AAI Figure

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Flux out:598.2 lm



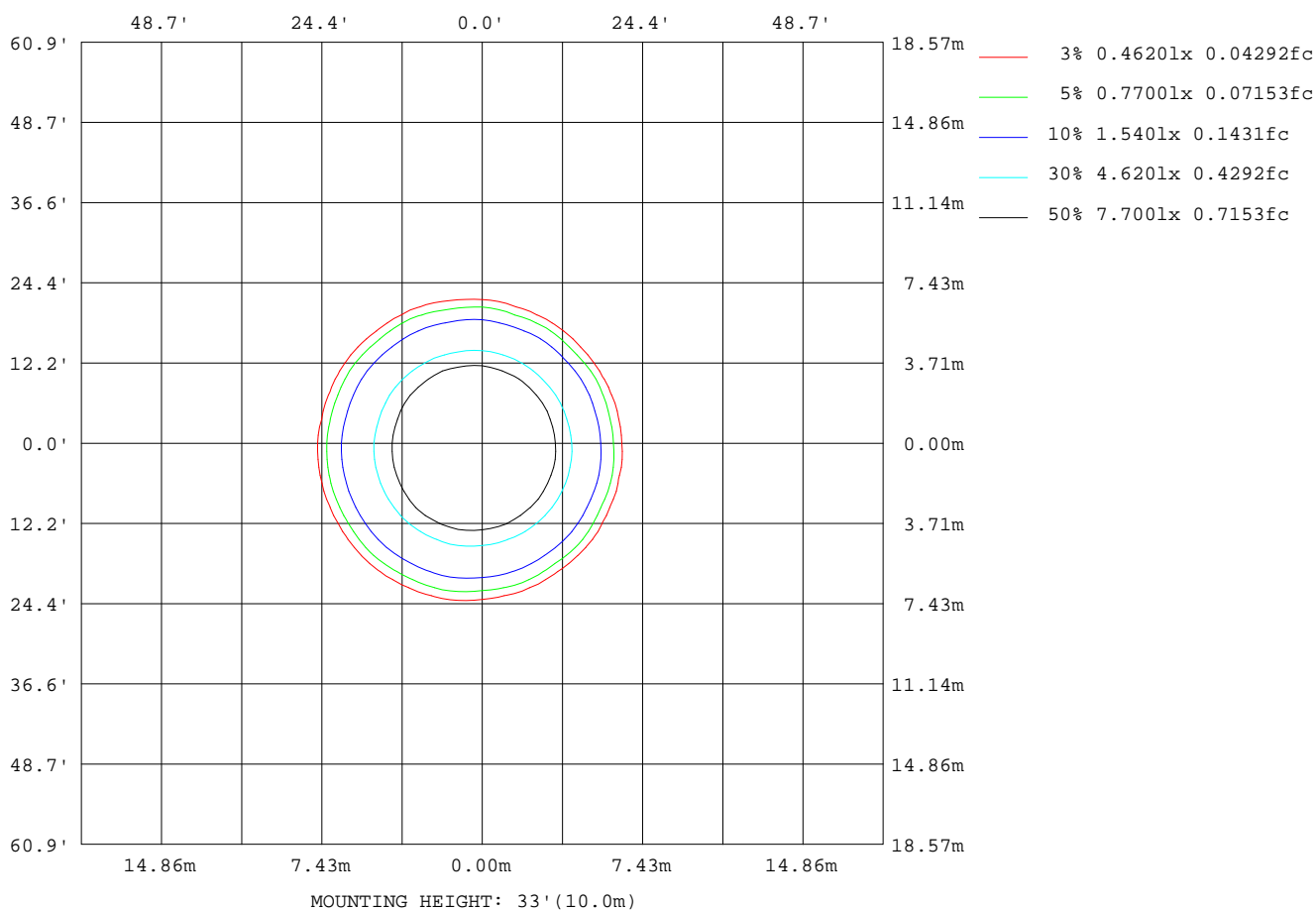
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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SPEC.:3000K	DIM.: ϕ 40mm*H70mm	
MFR.: E-LITE LIGHTING Co.,Ltd.		

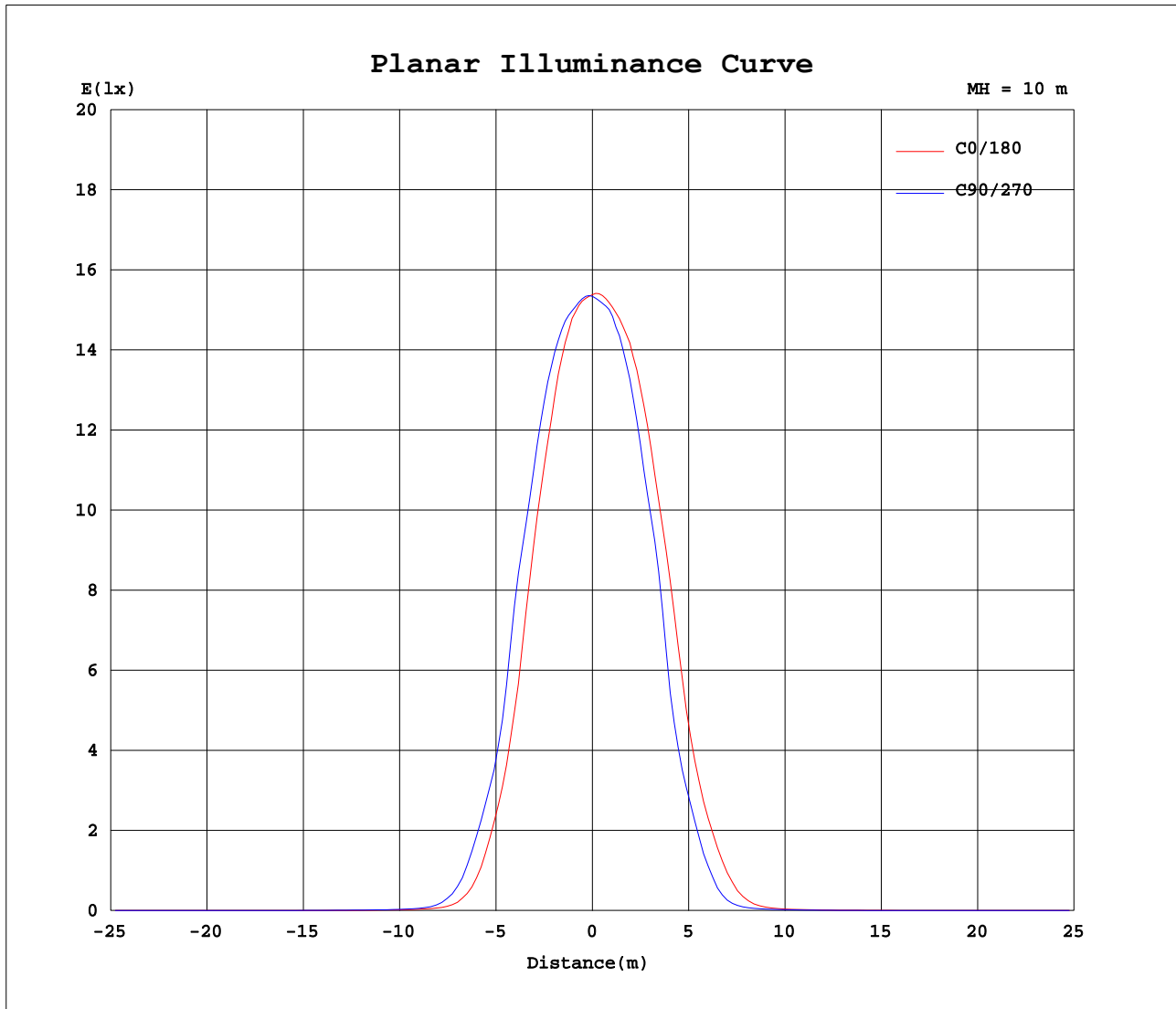
AvgL	cd/m2
L_0~180 (65) av	1123
L_0~180 (75) av	486
L_0~180 (85) av	368
L_90~270 (65) av	892
L_90~270 (75) av	380
L_90~270 (85) av	340
L_45 (65) av	1004
L_45 (75) av	427
L_45 (85) av	340

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-12-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2019-12-03

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 56%
Test Distance: 5.850m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

```