

Low Voltage Track System Module ML26-AL280-13W-940-35



Light Output Ratio:	100.0%	
Luminaire Power:	11.88 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.60	fine grid method.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: Jason Long
Test Date: 2019-10-17

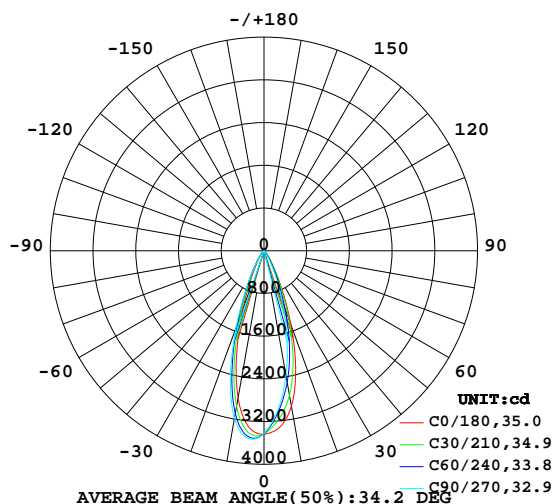
γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity: 56%
Test Distance: 5.850m [K=1.0000]
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

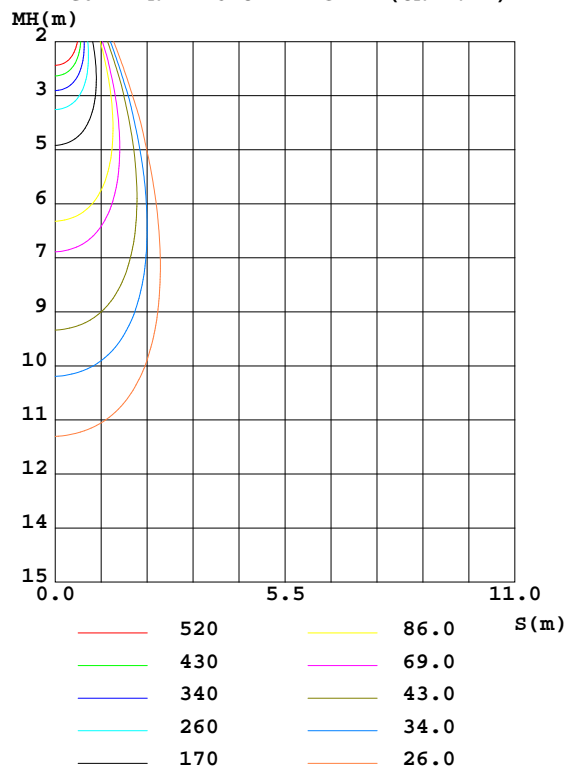
Test:U:33.93V I:0.3500A P:11.88W PF:1.000 Freq:0Hz Lamp Flux:1360.06x1 lm		
NAME: ML26-AL280-13W-940-35	TYPE:Low Voltage Track System	Serial No.:
SPEC.:4000K	DIM.: L284mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 114.51 lm/W			
MODEL	OSRAM-4000K	I _{max} (cd)	3538	S/MH(C0/180)	0.54
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.59
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	1360.1	η UP,DN(C0-180)	0.0,45.0
NOMINAL FLUX(lm)	1360.06	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,55.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	48	η down(%)	100.0	CIBSE SHR MAX	0.60

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
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Temperature:25.3DEG
Operators:Jason Long
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γ Range: 0 - 90DEG
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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	2958	2644	2376	2561	2798	3013	3185	3222	0- 10	300.1	300.1	22.1,22.1
20	1482	1291	977.5	1066	1156	1371	1527	1719	10- 20	574.2	874.3	64.3,64.3
30	384.3	331.4	221.0	265.3	274.6	370.2	367.6	479.6	20- 30	330.1	1204	88.6,88.6
40	99.84	87.61	51.82	76.17	77.37	104.8	73.37	124.8	30- 40	110.4	1315	96.7,96.7
50	29.40	27.15	7.615	21.42	19.52	25.96	13.37	34.98	40- 50	36.99	1352	99.4,99.4
60	0.5848	1.536	0.2910	0.1940	0.0983	0.4399	0.2687	4.263	50- 60	8.019	1360	100,100
70	0.1006	0.0743	0.1072	0.0612	0.0567	0.0831	0.0917	0.0853	60- 70	0.1947	1360	100,100
80	0.0787	0.0656	0.0678	0.0612	0.0459	0.0590	0.0394	0.0481	70- 80	0.0696	1360	100,100
90	0.0722	0.0656	0.0634	0.0678	0.0459	0.0437	0.0394	0.0394	80- 90	0.0597	1360	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): 1338.4 lm

%lum = 98.4%

%lamp = 98.4%

Conical surface Flux(120deg): 1359.7 lm

%lum = 100.0%

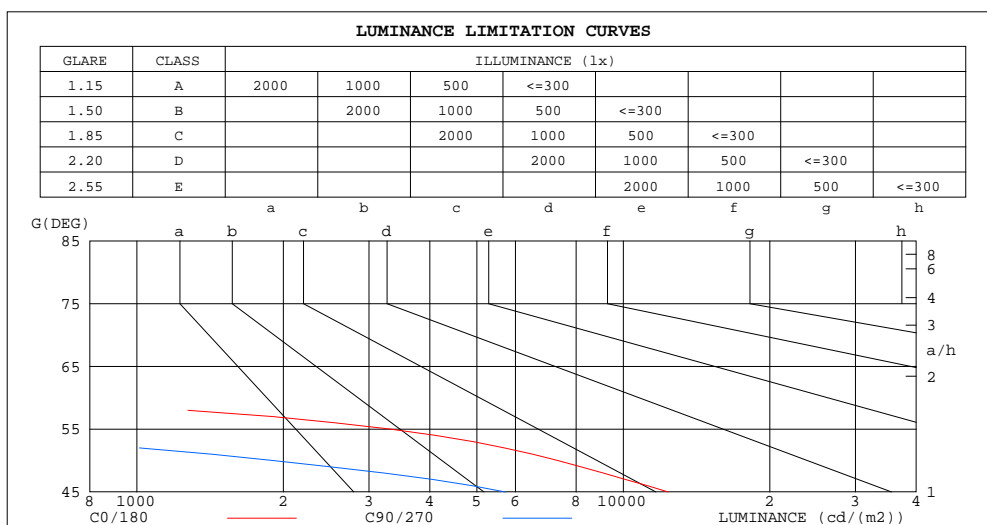
%lamp = 100.0%

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

LUMINANCE LIMITATION CURVES

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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	137	116
80	73	62
75	54	50
70	47	50
65	46	63
60	187	93
55	3313	135
50	7321	1896
45	12363	5714

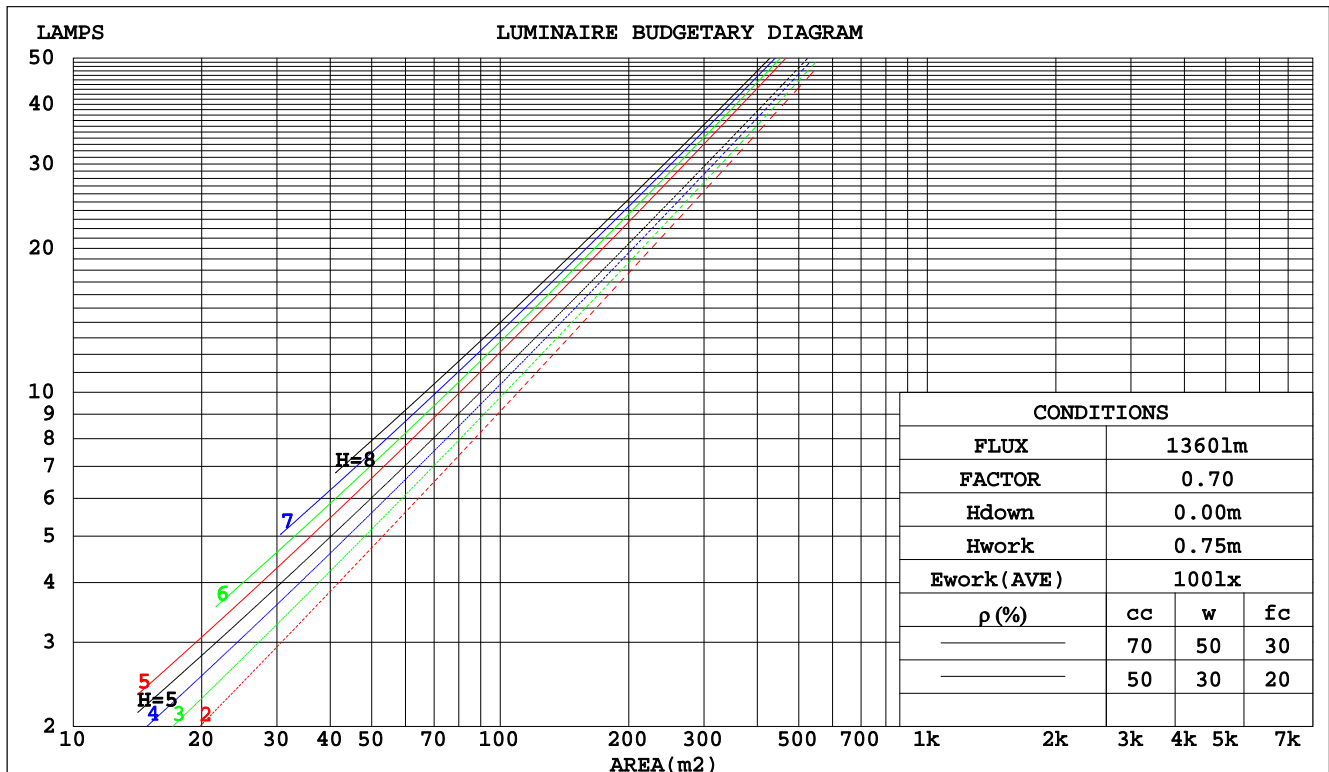
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	.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	1.00	.99	.98	.97	.95
2.0	1.06	1.03	.00	1.04	1.01	.99	1.01	.99	.96	.98	.96	.94	.95	.94	.92	.91
3.0	1.00	.96	.93	.99	.95	.92	.97	.93	.91	.94	.92	.89	.92	.90	.88	.87
4.0	.95	.91	.87	.94	.90	.87	.92	.89	.86	.90	.87	.85	.89	.86	.84	.83
5.0	.91	.86	.83	.90	.86	.82	.88	.85	.82	.87	.84	.81	.85	.83	.80	.79
6.0	.87	.82	.79	.86	.82	.78	.85	.81	.78	.83	.80	.77	.82	.79	.77	.76
7.0	.83	.78	.75	.83	.78	.75	.81	.77	.74	.80	.77	.74	.79	.76	.74	.72
8.0	.80	.75	.72	.79	.75	.71	.78	.74	.71	.77	.74	.71	.76	.73	.71	.69
9.0	.77	.72	.69	.76	.72	.68	.75	.71	.68	.75	.71	.68	.74	.70	.68	.67
10.0	.74	.69	.66	.73	.69	.66	.73	.68	.66	.72	.68	.65	.71	.68	.65	.64



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WEC AND CCEC

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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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.152	.087	.027	.146	.083	.026	.133	.076	.024	.122	.070	.023	.111	.065	.021		
2.0	.143	.079	.024	.138	.076	.023	.128	.071	.022	.118	.066	.021	.109	.062	.019		
3.0	.135	.072	.022	.131	.070	.021	.122	.066	.020	.114	.062	.019	.106	.059	.018		
4.0	.128	.067	.020	.124	.065	.019	.117	.062	.018	.110	.059	.018	.103	.056	.017		
5.0	.121	.062	.018	.118	.061	.018	.112	.058	.017	.106	.056	.017	.100	.054	.016		
6.0	.116	.058	.017	.113	.057	.016	.107	.055	.016	.102	.053	.016	.097	.051	.015		
7.0	.110	.055	.015	.108	.054	.015	.103	.052	.015	.098	.050	.015	.094	.049	.014		
8.0	.106	.052	.015	.103	.051	.014	.099	.049	.014	.095	.048	.014	.091	.047	.014		
9.0	.101	.049	.014	.099	.048	.014	.095	.047	.013	.092	.046	.013	.088	.045	.013		
10.0	.097	.047	.013	.095	.046	.013	.092	.045	.013	.089	.044	.013	.086	.043	.012		

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	.147	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016		
2.0	.152	.133	.116	.131	.114	.100	.089	.079	.070	.052	.046	.041	.017	.015	.013		
3.0	.139	.113	.093	.119	.098	.081	.082	.068	.057	.047	.040	.033	.015	.013	.011		
4.0	.127	.098	.076	.109	.085	.066	.075	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.117	.086	.063	.101	.075	.055	.069	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.109	.077	.053	.094	.066	.046	.065	.046	.033	.038	.027	.019	.012	.009	.006		
7.0	.102	.069	.045	.088	.060	.039	.061	.042	.028	.035	.025	.017	.011	.008	.006		
8.0	.096	.062	.039	.083	.054	.034	.057	.038	.024	.033	.022	.014	.011	.007	.005		
9.0	.091	.057	.034	.078	.049	.029	.054	.035	.021	.031	.020	.012	.010	.007	.004		
10.0	.086	.052	.030	.074	.045	.026	.051	.032	.018	.030	.019	.011	.010	.006	.004		

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
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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:

UGR(Unified Glare Rating) Table

Test:U:33.93V I:0.3500A P:11.88W PF:1.000 Freq:0Hz Lamp Flux:1360.06x1 lm										
NAME: ML26-AL280-13W-940-35					TYPE:Low Voltage Track SystemSerial No.:					
SPEC.:4000K					DIM.: L284mm*W22mm*H43mm					
MFR.: NEKO LIGHTING AG										
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	12.9	13.7	13.1	13.8	14.0	9.9	10.7	10.1	10.8	11.0
3H	12.8	13.5	13.0	13.7	13.8	9.7	10.5	10.0	10.6	10.8
4H	12.7	13.3	12.9	13.6	13.8	9.7	10.3	9.9	10.5	10.8
6H	12.6	13.2	12.9	13.5	13.7	9.6	10.2	9.9	10.4	10.7
8H	12.5	13.1	12.8	13.4	13.7	9.5	10.1	9.8	10.4	10.6
12H	12.5	13.1	12.8	13.3	13.6	9.5	10.1	9.8	10.3	10.6
4H 2H	12.7	13.3	12.9	13.6	13.8	9.7	10.4	10.0	10.6	10.8
3H	12.5	13.1	12.8	13.3	13.6	9.5	10.1	9.8	10.4	10.7
4H	12.4	12.9	12.7	13.2	13.5	9.4	10.0	9.8	10.3	10.6
6H	12.3	12.8	12.7	13.1	13.4	9.3	9.8	9.7	10.1	10.5
8H	12.3	12.7	12.6	13.0	13.4	9.3	9.7	9.7	10.1	10.4
12H	12.2	12.6	12.6	13.0	13.4	9.2	9.6	9.6	10.0	10.4
8H 4H	12.3	12.7	12.6	13.0	13.4	9.3	9.7	9.7	10.1	10.4
6H	12.1	12.5	12.6	12.9	13.3	9.2	9.5	9.6	9.9	10.3
8H	12.1	12.4	12.5	12.8	13.3	9.1	9.4	9.6	9.9	10.3
12H	12.0	12.3	12.5	12.7	13.2	9.1	9.3	9.5	9.8	10.2
12H 4H	12.2	12.6	12.6	13.0	13.4	9.2	9.6	9.6	10.0	10.4
6H	12.1	12.4	12.5	12.8	13.3	9.1	9.4	9.6	9.9	10.3
8H	12.0	12.3	12.5	12.7	13.2	9.1	9.3	9.5	9.8	10.2
Variations with the observer position at spacings:										
S = 1.0H	+ 3.0 / -11.5					+ 2.7 / -24.3				
1.5H	+ 4.3 / - 5.8					+ 3.8 / -11.0				
2.0H	+ 5.4 / -25.9					+ 5.8 / -19.9				

CIE Pub.117, 1360 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 1.1$)

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Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:56%
Test Distance:5.850m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

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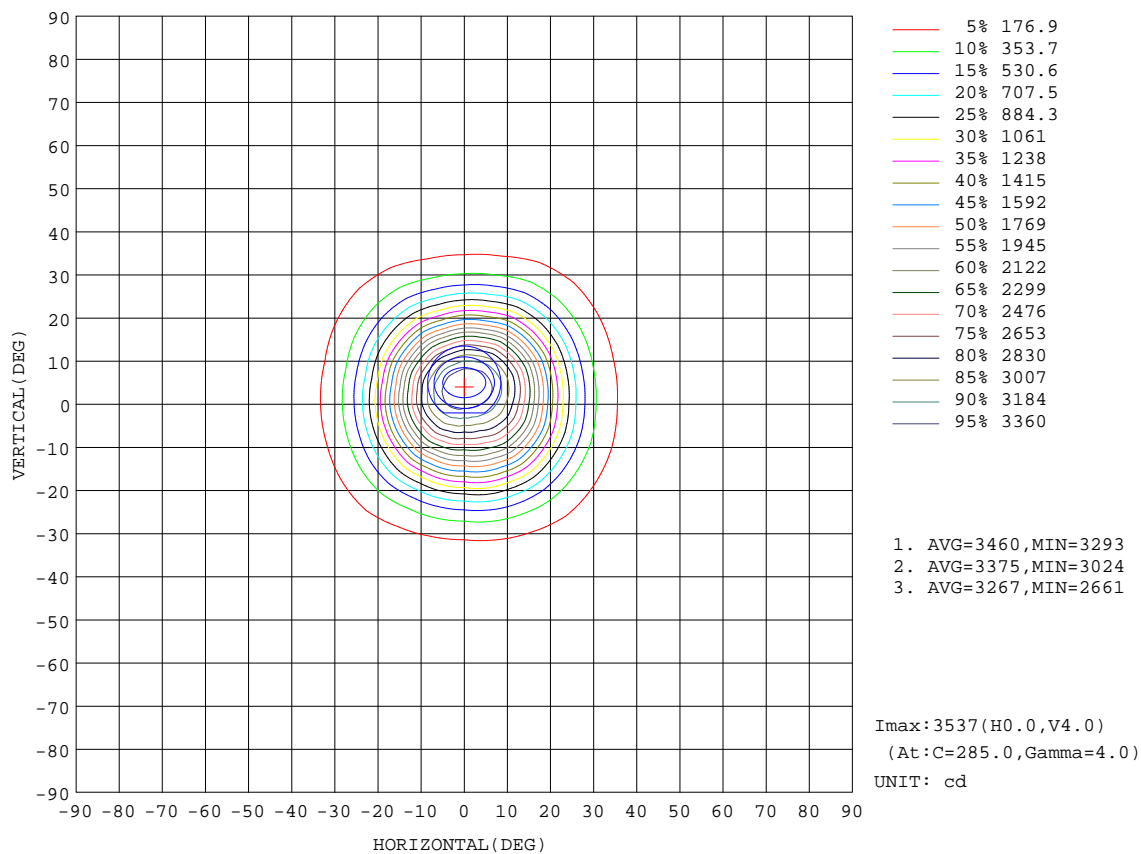
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	96	92	100	95	92	98	95	91	88
1.25	104	100	96	103	99	96	102	98	95	91
1.50	107	103	100	106	102	99	104	100	98	94
2.00	109	106	103	108	104	102	105	103	100	95
2.50	111	107	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	103	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	115	113	112	113	112	110	109	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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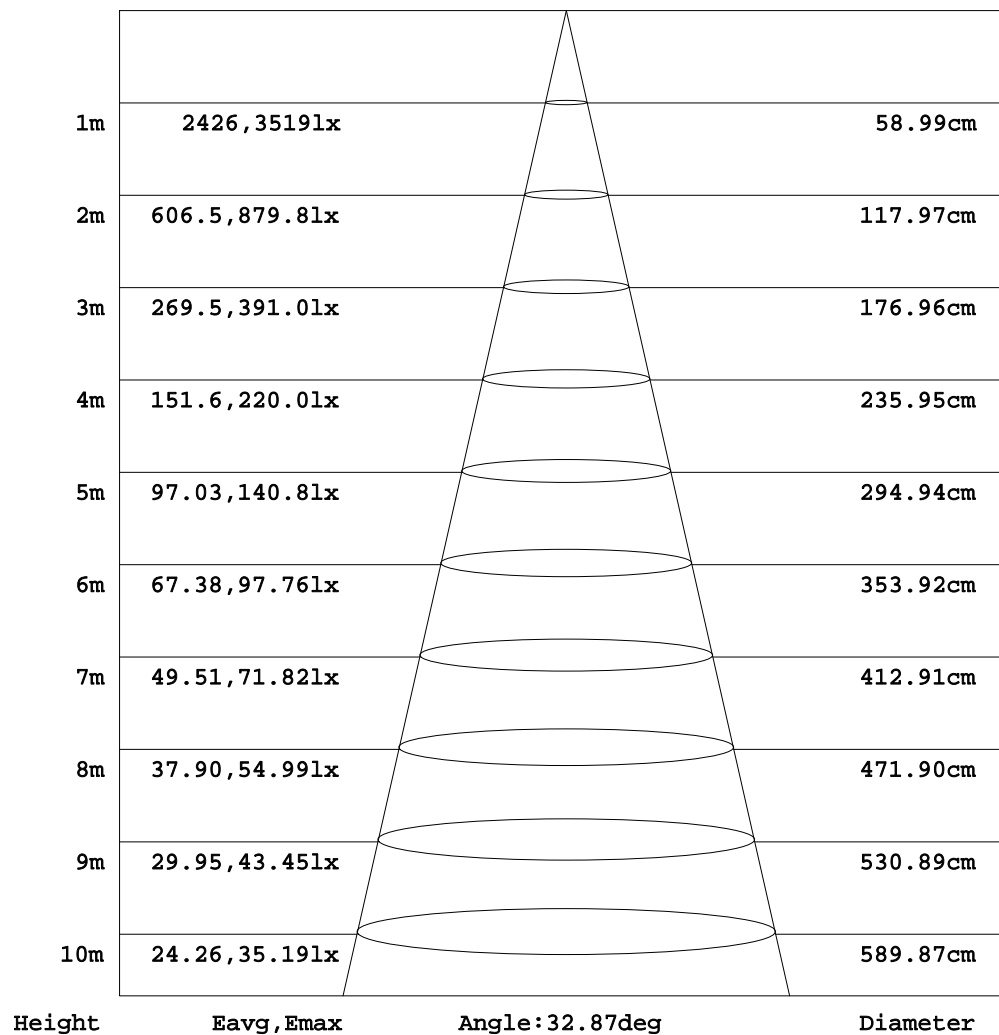
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AAI Figure

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Flux out:712.3 lm



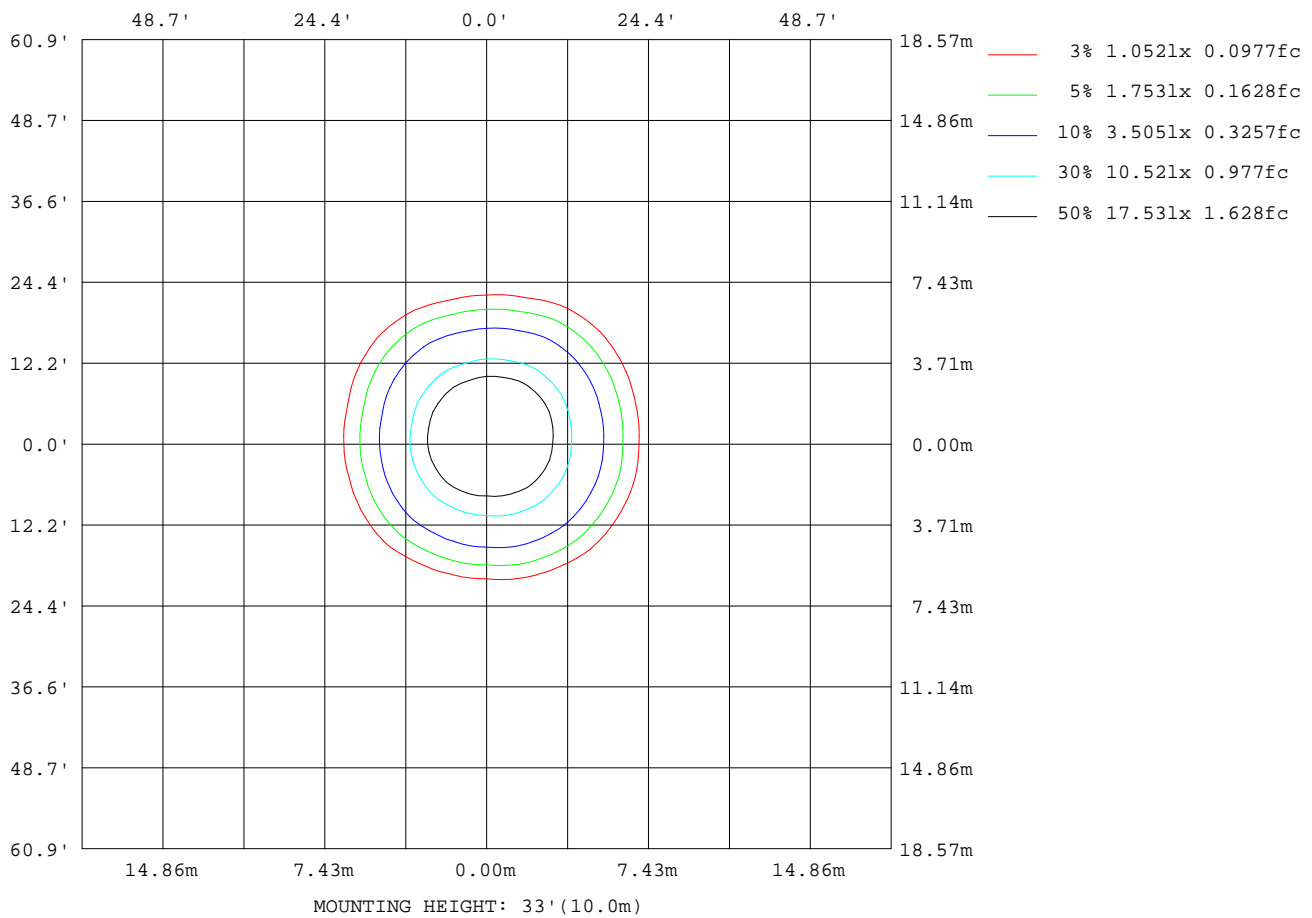
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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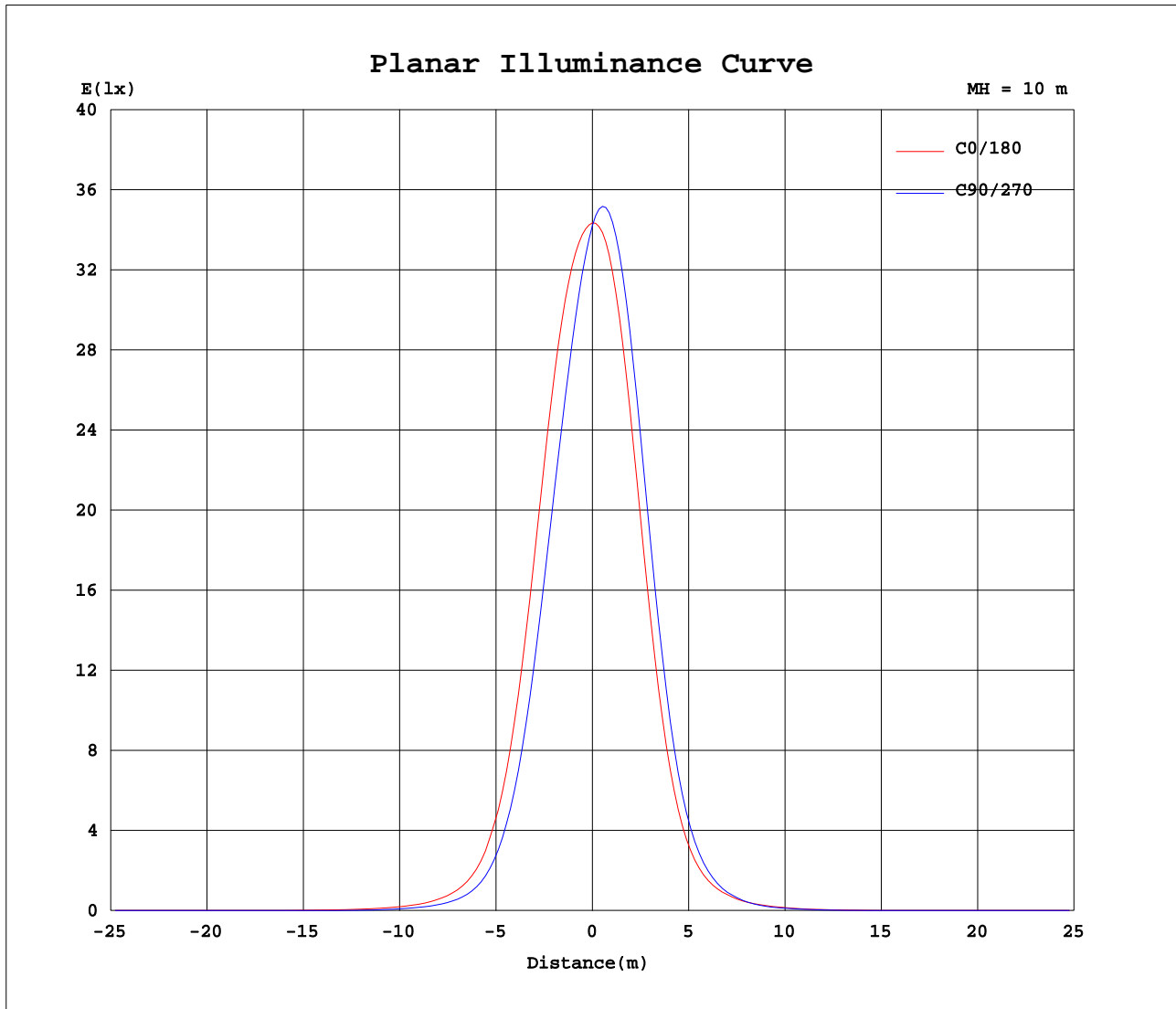
AvgL	cd/m2
L_0~180(65)av	37
L_0~180(75)av	41
L_0~180(85)av	110
L_90~270(65)av	60
L_90~270(75)av	45
L_90~270(85)av	94
L_45(65)av	40
L_45(75)av	40
L_45(85)av	101

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Jason Long
Test Date:2019-10-17

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: 2019-10-17

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:

```