

Low Voltage Track System Module ML26-AL190-3W-940-20



Light Output Ratio:	100.0%	
Luminaire Power:	2.938 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason  
Test Date: 2020-05-04

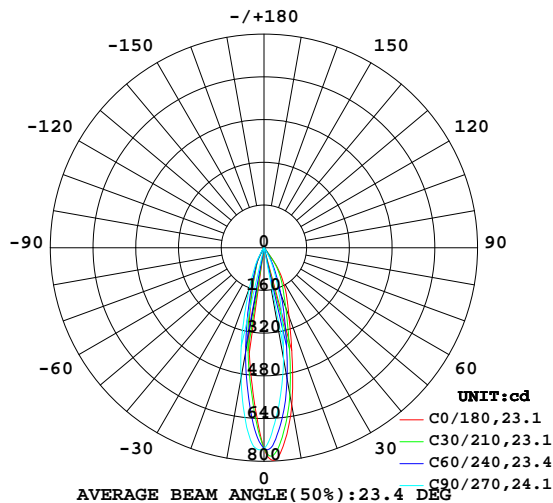
γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

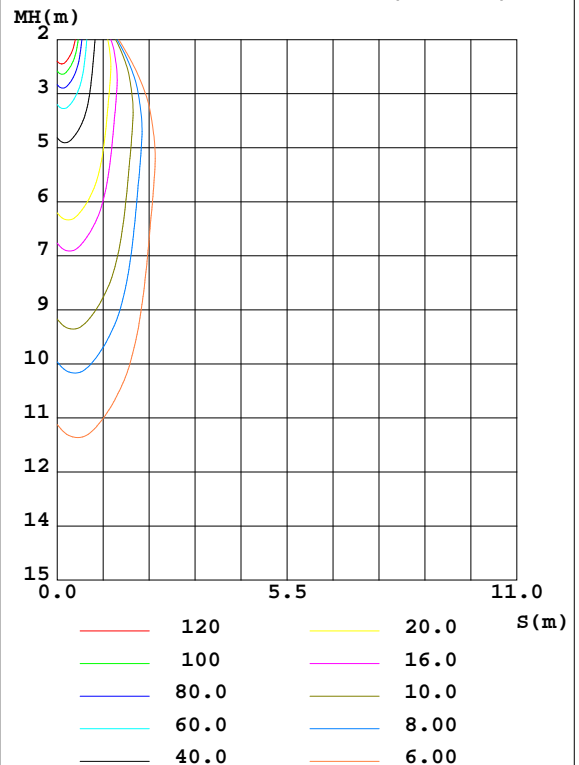
Test:U:48.00V I:0.0612A P:2.938W PF:1.000 Freq:0Hz Lamp Flux:200.578x1 lm		
NAME: ML26-AL190-3W-940-20	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: L192mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.28 lm/W			
MODEL	OSRAM-4000K	I <sub>max</sub> (cd)	816.7	S/MH(C0/180)	0.29
NOMINAL POWER(W)	3	LOR(%)	100.0	S/MH(C90/270)	0.44
RATED VOLTAGE(V)	48	TOTAL FLUX(lm)	200.58	η UP,DN(C0-180)	0.0,50.3
NOMINAL FLUX(lm)	200.578	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	48	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
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Temperature:25.3DEG  
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## ZONAL FLUX DIAGRAM

### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	599.9	535.4	422.5	330.7	327.1	365.0	496.6	592.8	0- 10	55.53	55.53	27.7,27.7
20	274.4	204.6	148.6	102.2	96.52	103.3	159.4	212.8	10- 20	78.19	133.7	66.7,66.7
30	139.8	69.07	32.72	18.62	14.90	18.51	36.91	72.04	20- 30	46.39	180.1	89.8,89.8
40	12.97	9.125	6.185	5.251	5.439	5.674	7.124	9.623	30- 40	16.25	196.4	97.9,97.9
50	5.945	3.436	2.049	1.216	1.355	1.364	2.213	2.540	40- 50	3.471	199.8	99.6,99.6
60	0.0454	0.0284	0.0505	0.0437	0.0539	0.0700	0.0350	0.0482	50- 60	0.6810	200.5	100,100
70	0.0217	0.0087	0.0264	0.0131	0.0151	0.0328	0.0066	0.0241	60- 70	0.0303	200.6	100,100
80	0.0130	0.0087	0.0154	0.0088	0.0065	0.0175	0.0066	0.0153	70- 80	0.0153	200.6	100,100
90	0.0087	0.0087	0.0088	0.0088	0.0065	0.0087	0.0066	0.0066	80- 90	0.0108	200.6	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): 198.49 lm

%lum = 99.0%

%lamp = 99.0%

Conical surface Flux(120deg): 200.52 lm

%lum = 100.0%

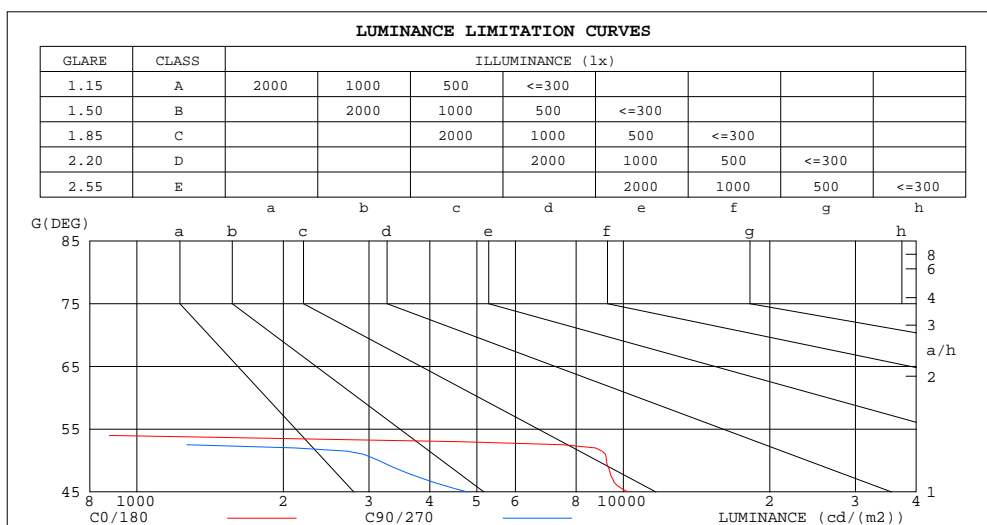
%lamp = 100.0%

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Temperature:25.3DEG  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
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Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

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NAME: ML26-AL190-3W-940-20	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: L192mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	100	149
80	75	87
75	67	76
70	63	76
65	77	82
60	91	99
55	262	163
50	9239	3139
45	10226	4779

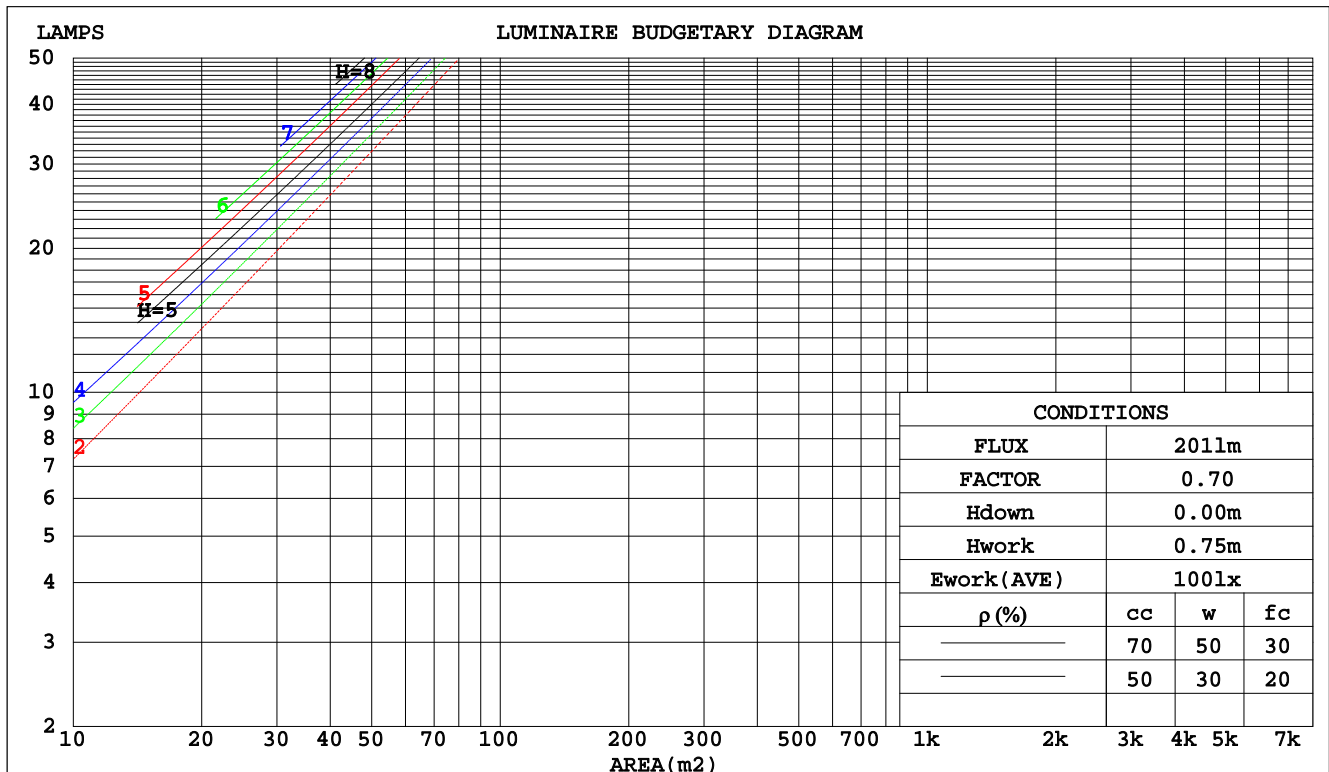
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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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	1.07	1.06	1.05	1.03	1.03	1.01	1.00	.99	.98	.98	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.02	.99	.97	.99	.97	.95	.96	.95	.93	.92
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.93	.90	.93	.91	.89	.88
4.0	.97	.92	.89	.95	.91	.88	.93	.90	.87	.92	.89	.86	.90	.87	.85	.84
5.0	.92	.88	.84	.91	.87	.84	.90	.86	.83	.88	.85	.83	.87	.84	.82	.81
6.0	.88	.84	.80	.88	.83	.80	.86	.83	.80	.85	.82	.79	.84	.81	.79	.78
7.0	.85	.80	.77	.84	.80	.77	.83	.79	.76	.82	.79	.76	.81	.78	.76	.75
8.0	.82	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.73	.79	.75	.73	.72
9.0	.79	.74	.71	.78	.74	.71	.78	.74	.71	.77	.73	.71	.76	.73	.70	.69
10.0	.76	.72	.69	.76	.71	.69	.75	.71	.68	.74	.71	.68	.74	.70	.68	.67



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## WEC AND CCEC

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pcc	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	.147	.084	.027	.141	.080	.026	.128	.074	.024	.117	.067	.022	.106	.062	.020		
2.0	.138	.076	.023	.133	.073	.023	.122	.068	.021	.113	.063	.020	.104	.059	.019		
3.0	.130	.069	.021	.125	.067	.020	.117	.063	.019	.109	.060	.018	.101	.056	.017		
4.0	.123	.064	.019	.119	.062	.018	.112	.059	.018	.105	.056	.017	.098	.053	.016		
5.0	.116	.059	.017	.113	.058	.017	.107	.056	.016	.101	.053	.016	.095	.051	.015		
6.0	.111	.055	.016	.108	.054	.016	.102	.052	.015	.097	.050	.015	.092	.049	.014		
7.0	.105	.052	.015	.103	.051	.015	.098	.050	.014	.094	.048	.014	.089	.046	.014		
8.0	.101	.049	.014	.099	.049	.014	.094	.047	.013	.090	.046	.013	.087	.044	.013		
9.0	.096	.047	.013	.095	.046	.013	.091	.045	.013	.087	.044	.013	.084	.043	.012		
10.0	.093	.044	.012	.091	.044	.012	.087	.043	.012	.084	.042	.012	.081	.041	.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	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016		
2.0	.152	.133	.117	.130	.114	.101	.089	.079	.070	.051	.046	.041	.016	.015	.013		
3.0	.138	.113	.094	.118	.098	.082	.081	.068	.057	.047	.040	.034	.015	.013	.011		
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009		
5.0	.116	.086	.064	.099	.074	.056	.068	.052	.039	.040	.031	.023	.013	.010	.008		
6.0	.107	.076	.054	.092	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007		
7.0	.100	.068	.046	.086	.059	.040	.060	.041	.028	.035	.024	.017	.011	.008	.006		
8.0	.094	.062	.040	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005		
9.0	.089	.056	.034	.076	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004		
10.0	.084	.052	.030	.072	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004		

C Range: 0 - 360DEG  
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Operators:Jason  
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γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:48.00V I:0.0612A P:2.938W PF:1.000 Freq:0Hz Lamp Flux:200.578x1 lm										
NAME: ML26-AL190-3W-940-20					TYPE:Low Voltage Track System Module					
SPEC.:4000K					DIM.: L192mm*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	24.7	25.5	24.9	25.6	25.8	15.6	16.3	15.8	16.4	16.6
3H	24.6	25.3	24.8	25.4	25.6	15.4	16.1	15.6	16.3	16.5
4H	24.5	25.1	24.8	25.4	25.6	15.3	16.0	15.6	16.2	16.4
6H	24.4	25.0	24.7	25.3	25.5	15.2	15.8	15.5	16.1	16.3
8H	24.4	25.0	24.7	25.2	25.5	15.2	15.8	15.5	16.0	16.3
12H	24.3	24.9	24.6	25.1	25.4	15.1	15.7	15.5	16.0	16.2
4H 2H	24.5	25.1	24.8	25.4	25.6	15.3	16.0	15.6	16.2	16.4
3H	24.3	24.9	24.6	25.1	25.4	15.2	15.7	15.5	16.0	16.3
4H	24.2	24.7	24.6	25.0	25.3	15.1	15.6	15.4	15.9	16.2
6H	24.1	24.6	24.5	24.9	25.3	15.0	15.4	15.3	15.8	16.1
8H	24.1	24.5	24.5	24.8	25.2	14.9	15.3	15.3	15.7	16.1
12H	24.0	24.4	24.4	24.8	25.2	14.9	15.3	15.3	15.6	16.0
8H 4H	24.1	24.5	24.5	24.8	25.2	14.9	15.3	15.3	15.7	16.1
6H	24.0	24.3	24.4	24.7	25.1	14.8	15.2	15.2	15.6	16.0
8H	23.9	24.2	24.3	24.6	25.1	14.8	15.1	15.2	15.5	15.9
12H	23.8	24.1	24.3	24.5	25.0	14.7	15.0	15.2	15.4	15.9
12H 4H	24.0	24.4	24.4	24.8	25.2	14.9	15.3	15.3	15.6	16.0
6H	23.9	24.2	24.3	24.6	25.1	14.8	15.1	15.2	15.5	15.9
8H	23.8	24.1	24.3	24.5	25.0	14.7	15.0	15.2	15.4	15.9
Variations with the observer position at spacings:										
S = 1.0H	+ 5.1 / -29.3					+ 2.7 / -21.7				
1.5H	+ 6.9 / -27.6					+ 3.1 / -22.1				
2.0H	+ 5.5 / -24.8					+ 4.6 / -20.3				

CIE Pub.117, 200.6 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -5.6$ )

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Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
Test Distance:5.850m [K=1.0000]  
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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) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	97	92	88	96	91	88	85
1.00	101	96	93	100	96	93	99	95	92	88
1.25	105	100	97	104	100	97	102	98	96	92
1.50	107	103	100	106	102	100	104	101	98	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	107	104	102	96
3.00	113	109	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	116	114	112	113	112	110	110	108	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

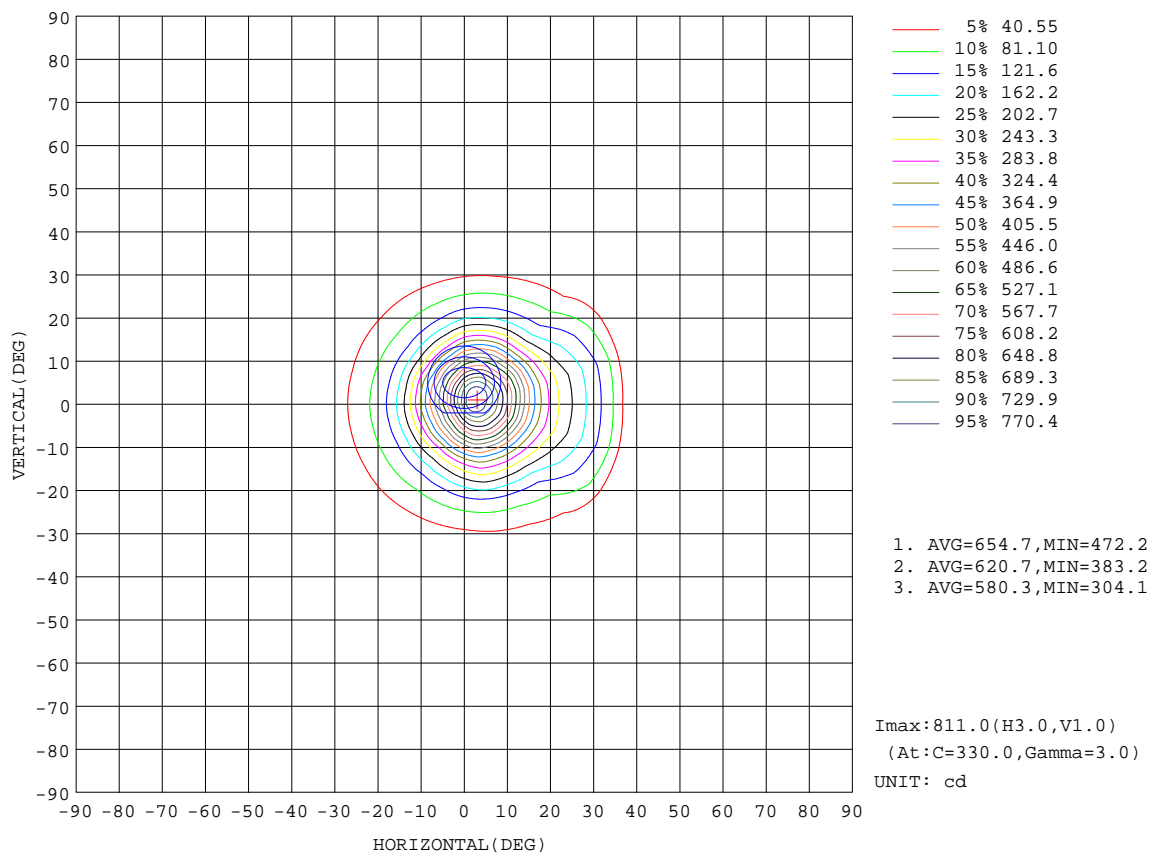
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ISOCANDELA DIAGRAM

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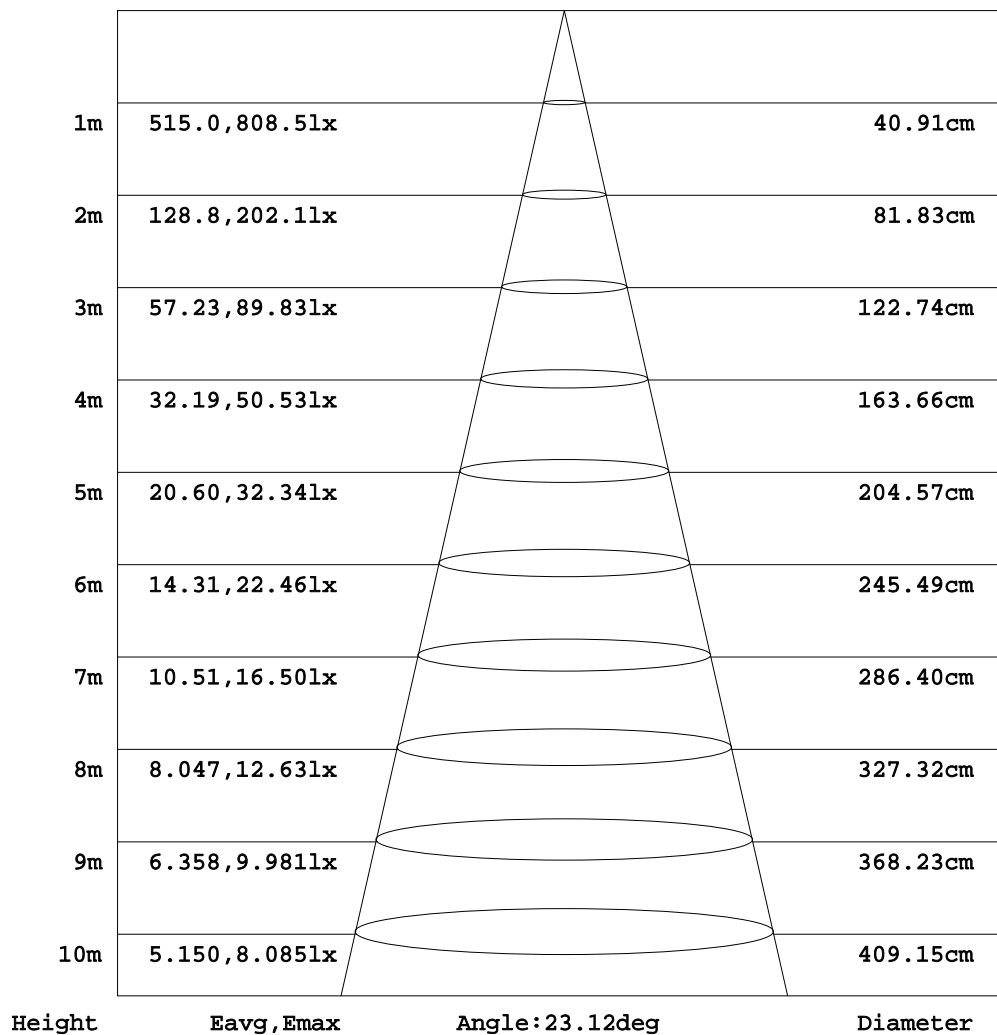
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AAI Figure

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Flux out:73.10 lm



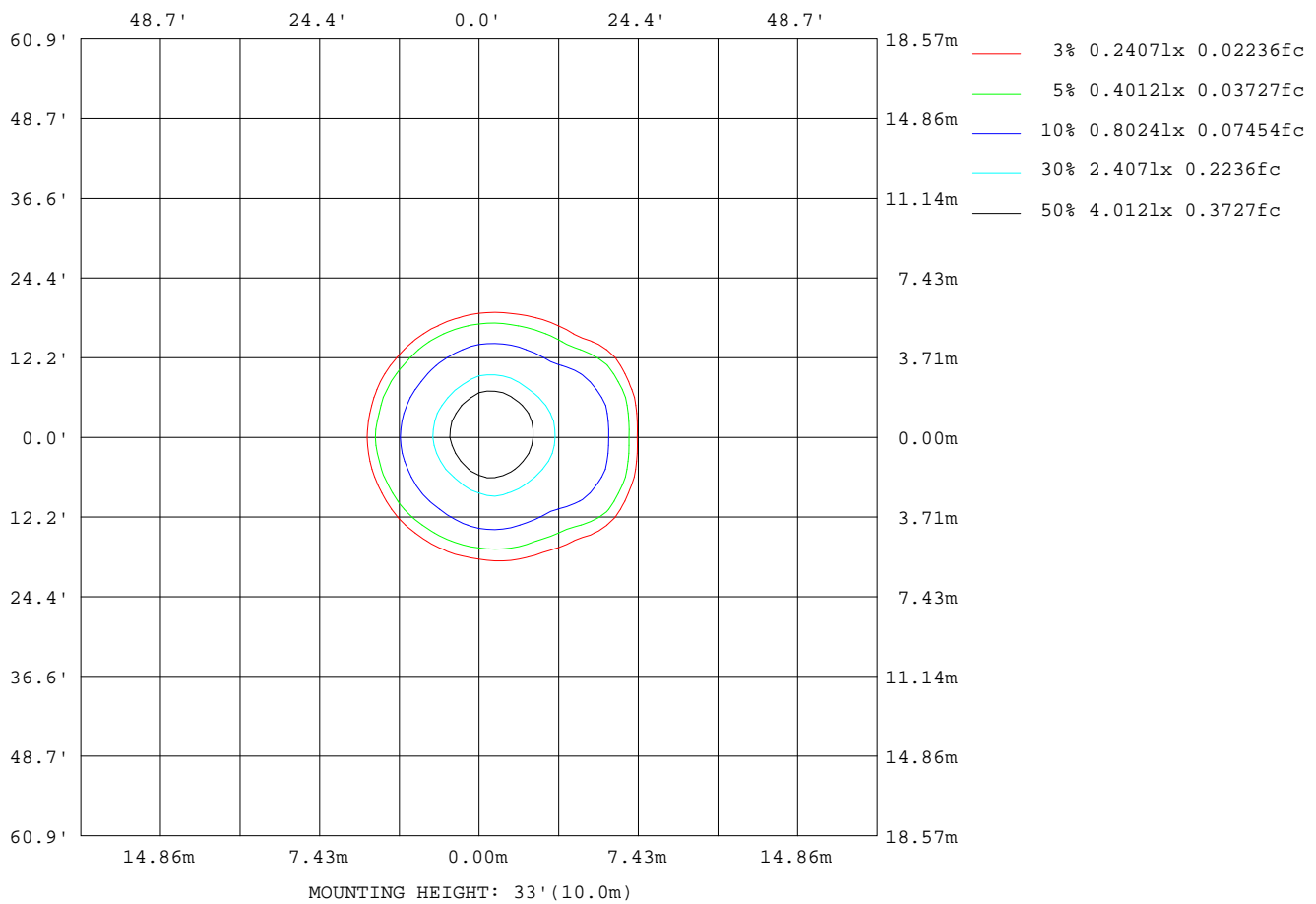
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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### LED Avg.L Report

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NAME: ML26-AL190-3W-940-20	TYPE:Low Voltage Track System Module	
SPEC.:4000K	DIM.: L192mm*W22mm*H43mm	
MFR.: NEKO LIGHTING AG		

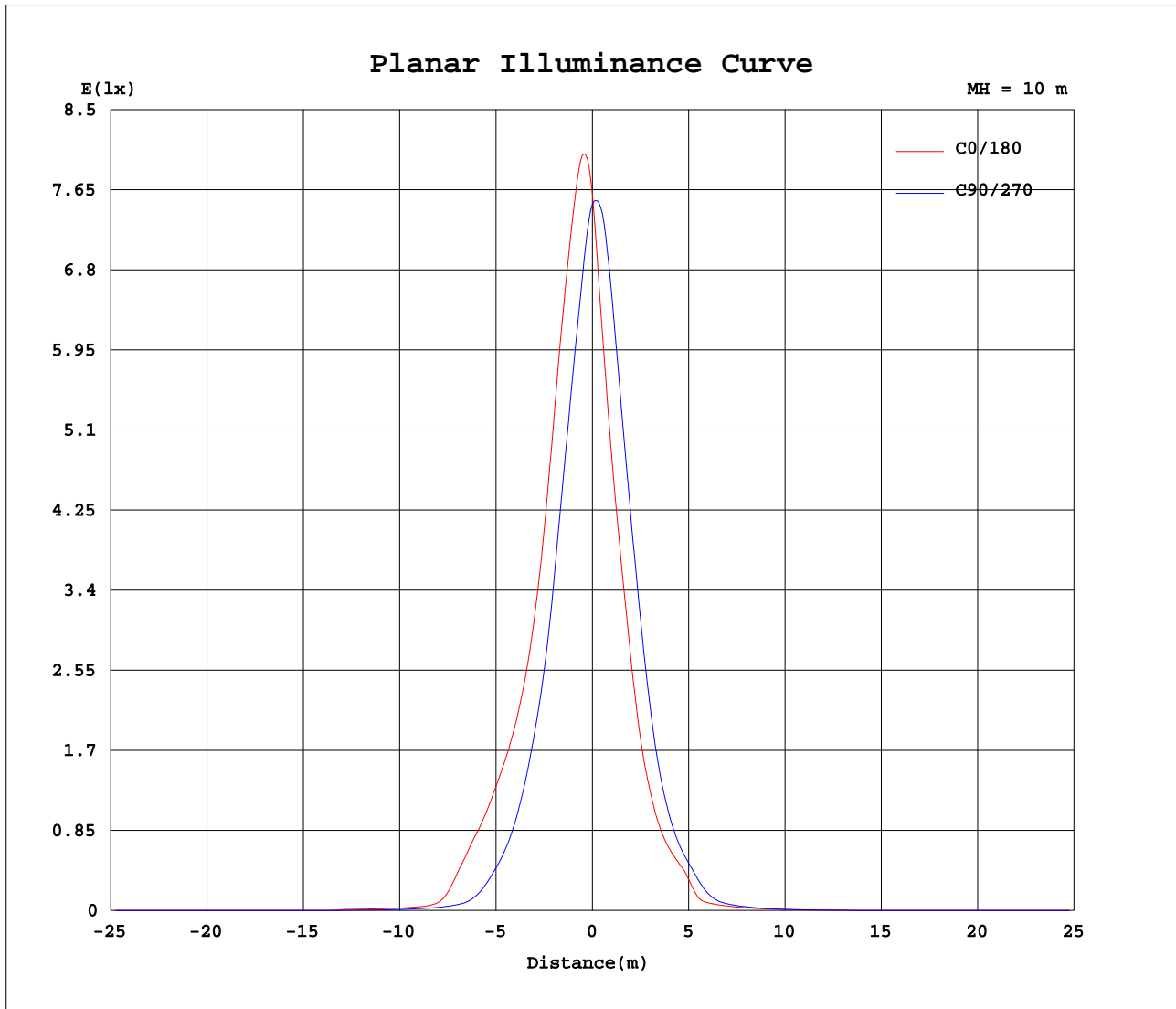
AvgL	cd/m2
L_0~180(65)av	71
L_0~180(75)av	45
L_0~180(85)av	86
L_90~270(65)av	62
L_90~270(75)av	50
L_90~270(85)av	112
L_45(65)av	72
L_45(75)av	54
L_45(85)av	118

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason  
Test Date:2020-05-04

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:58%  
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  
Test Date: 2020-05-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 58%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:58%
Test Distance:5.850m [K=1.0000]
Remarks:

```