

Low Voltage Track System Module ML26-RS40-12W-930-30



Light Output Ratio:	100.0%	
Luminaire Power:	12.47 W	
SHR Nominal:	0.50	Calculated using the TM5
SHR Maximum:	0.50	fine grid method.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Jason Long  
Test Date: 2019-12-04

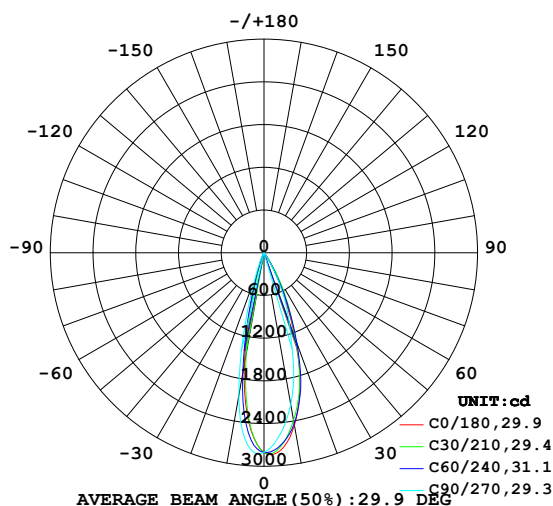
γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

LUMINAIRE PHOTOMETRIC TEST REPORT

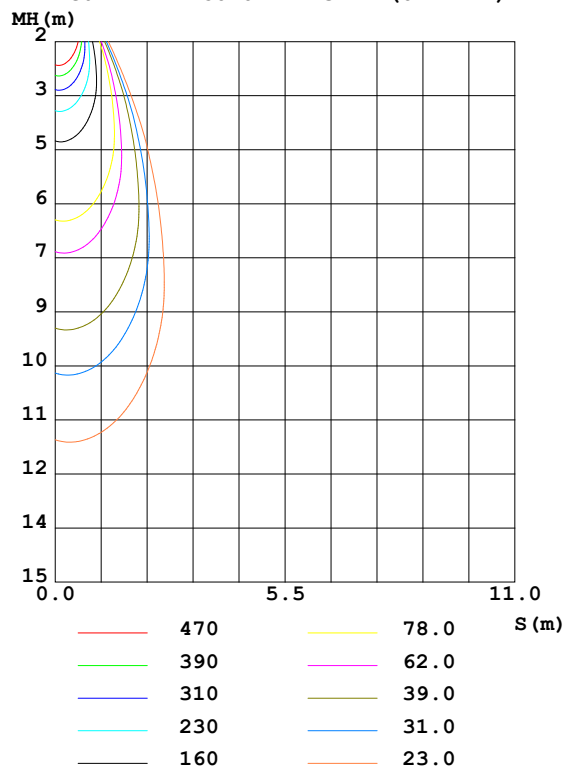
Test:U:48.00V I:0.2598A P:12.47W PF:1.000 Freq:0Hz Lamp Flux:822.227x1 lm		
NAME: ML26-RS40-12W-930-30	TYPE:Low Voltage Track System Module	
SPEC.:3000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 65.94 lm/W			
MODEL	CITIZEN-3000K	I <sub>max</sub> (cd)	3029	S/MH (C0/180)	0.36
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	0.41
RATED VOLTAGE (V)	48	TOTAL FLUX (lm)	822.23	$\eta$ UP,DN (C0-180)	0.0,62.1
NOMINAL FLUX (lm)	822.227	CIE CLASS	DIRECT	$\eta$ UP,DN (C180-360)	0.0,37.9
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	48	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Jason Long  
 Test Date:2019-12-04

$\gamma$  Range: 0 - 90DEG  
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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	2460	2332	2162	2039	1600	1442	2040	2487	0- 10	234.4	234.4	28.5,28.5
20	1276	1214	1034	774.6	186.0	162.9	326.3	796.9	10- 20	379.7	614.1	74.7,74.7
30	260.9	411.7	248.1	84.91	18.15	15.71	27.80	71.57	20- 30	171.6	785.7	95.6,95.6
40	23.74	39.90	23.22	6.376	1.731	1.866	2.823	8.291	30- 40	32.07	817.8	99.5,99.5
50	1.442	1.780	1.343	0.9155	0.5025	0.5136	0.7733	1.214	40- 50	3.628	821.4	99.9,99.9
60	0.5359	0.5989	0.4369	0.2058	0.1073	0.1414	0.1960	0.3793	50- 60	0.5646	822.0	100,100
70	0.1534	0.1512	0.1114	0.0496	0.0298	0.0525	0.0631	0.1256	60- 70	0.1805	822.1	100,100
80	0.0578	0.0443	0.0459	0.0237	0.0159	0.0222	0.0174	0.0498	70- 80	0.0608	822.2	100,100
90	0.0259	0.0222	0.0218	0.0261	0.0159	0.0161	0.0174	0.0189	80- 90	0.0287	822.2	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): 820.61 lm

%lum = 99.8%

%lamp = 99.8%

Conical surface Flux(120deg): 821.96 lm

%lum = 100.0%

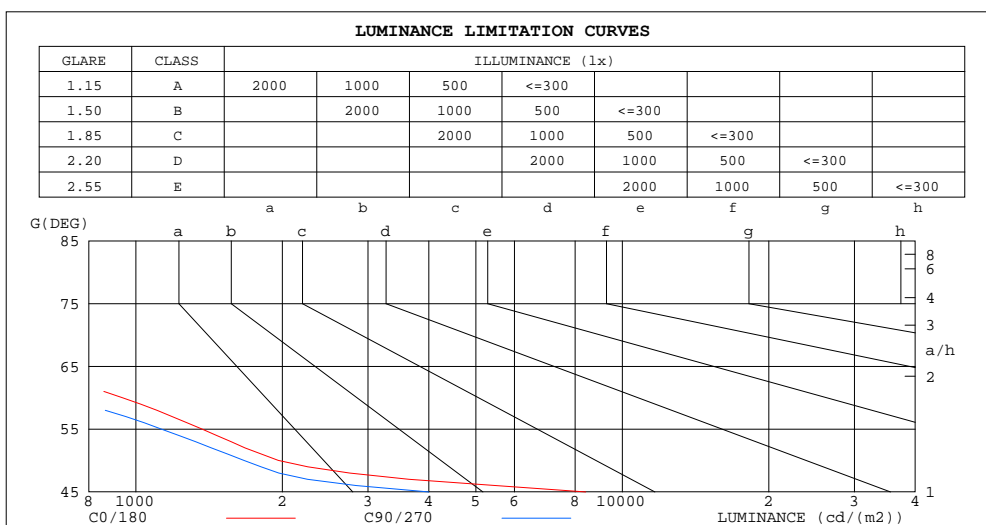
%lamp = 100.0%

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C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason Long  
Test Date:2019-12-04

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

**LUMINANCE LIMITATION CURVES**

Test:U:48.00V I:0.2598A P:12.47W PF:1.000 Freq:0Hz Lamp Flux:822.227x1 lm		
NAME: ML26-RS40-12W-930-30	TYPE:Low Voltage Track System Module	
SPEC.:3000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		



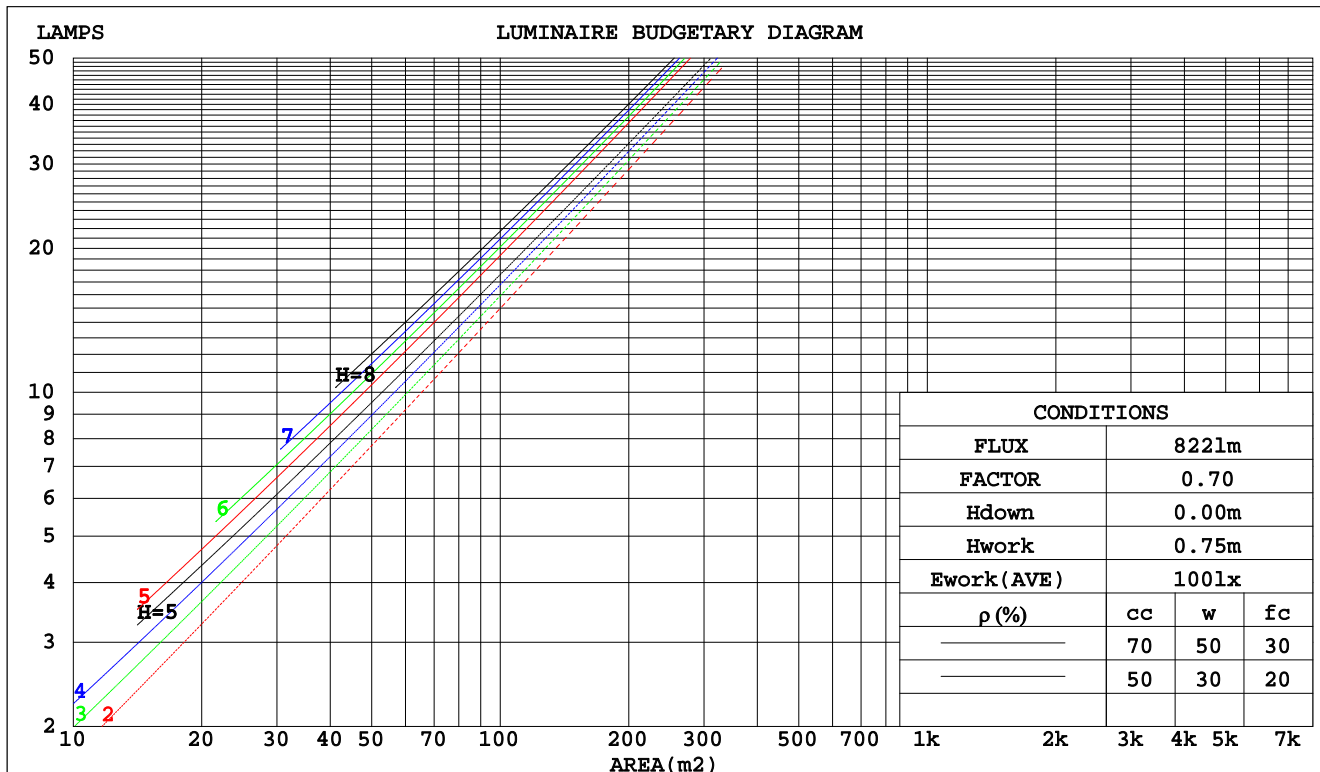
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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SPEC.:3000K	DIM.: $\phi 40\text{mm} \times \text{H}105\text{mm}$	
MFR.: NEKO LIGHTING AG		

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	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	1.13	1.11	1.09	1.11	1.09	1.07	1.07	1.05	1.04	1.03	1.02	1.01	.00	.99	.98	.96
2.0	1.07	1.04	1.01	1.05	1.03	1.00	1.02	1.00	.98	.99	.98	.96	.97	.95	.94	.93
3.0	1.02	.99	.96	1.01	.98	.95	.99	.96	.93	.96	.94	.92	.94	.92	.91	.89
4.0	.98	.94	.91	.97	.93	.90	.95	.92	.89	.93	.90	.88	.91	.89	.87	.86
5.0	.94	.90	.87	.93	.89	.86	.92	.88	.86	.90	.87	.85	.89	.86	.84	.83
6.0	.91	.86	.83	.90	.86	.83	.89	.85	.82	.87	.84	.82	.86	.83	.81	.80
7.0	.87	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.79	.77
8.0	.84	.80	.77	.84	.80	.77	.83	.79	.77	.82	.79	.76	.81	.78	.76	.75
9.0	.82	.77	.74	.81	.77	.74	.80	.77	.74	.80	.76	.74	.79	.76	.74	.73
10.0	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.71	.77	.74	.71	.70



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## WEC AND CCEC

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SPEC.:3000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		

$\rho_{cc}$	80%			70%			50%			30%			10%			0		
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0		
$\rho_{fc}$	20%			20%			20%			20%			20%			0		
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)											
0.0																		
1.0	.141	.080	.025	.135	.077	.024	.122	.070	.022	.111	.064	.020	.100	.058	.019			
2.0	.131	.072	.022	.126	.069	.021	.116	.064	.020	.106	.060	.019	.097	.055	.017			
3.0	.123	.065	.020	.118	.063	.019	.110	.060	.018	.102	.056	.017	.095	.052	.016			
4.0	.116	.060	.018	.112	.059	.017	.105	.055	.017	.098	.053	.016	.092	.050	.015			
5.0	.109	.056	.016	.106	.054	.016	.100	.052	.015	.094	.050	.015	.089	.047	.014			
6.0	.104	.052	.015	.101	.051	.015	.096	.049	.014	.091	.047	.014	.086	.045	.013			
7.0	.099	.049	.014	.097	.048	.014	.092	.046	.013	.087	.045	.013	.083	.043	.013			
8.0	.095	.046	.013	.092	.046	.013	.088	.044	.013	.084	.043	.012	.081	.041	.012			
9.0	.091	.044	.012	.089	.043	.012	.085	.042	.012	.082	.041	.012	.078	.040	.012			
10.0	.087	.042	.012	.085	.041	.012	.082	.040	.011	.079	.039	.011	.076	.038	.011			

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.169	.158	.148	.144	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.151	.133	.117	.129	.114	.102	.089	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.136	.113	.095	.117	.098	.082	.080	.068	.058	.046	.040	.034	.015	.013	.011	
4.0	.124	.098	.078	.106	.085	.068	.073	.059	.048	.042	.035	.028	.014	.011	.009	
5.0	.114	.086	.065	.098	.074	.057	.067	.052	.040	.039	.030	.024	.013	.010	.008	
6.0	.105	.076	.055	.090	.066	.048	.062	.046	.034	.036	.027	.020	.012	.009	.007	
7.0	.098	.068	.047	.084	.059	.041	.058	.041	.029	.034	.024	.017	.011	.008	.006	
8.0	.091	.061	.040	.079	.053	.035	.054	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.086	.056	.035	.074	.048	.031	.051	.034	.022	.030	.020	.013	.010	.007	.004	
10.0	.081	.051	.031	.070	.044	.027	.049	.031	.019	.028	.018	.011	.009	.006	.004	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
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Temperature:25.3DEG  
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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:48.00V I:0.2598A P:12.47W PF:1.000 Freq:0Hz Lamp Flux:822.227x1 lm										
NAME: ML26-RS40-12W-930-30					TYPE:Low Voltage Track System Module					
SPEC.:3000K					DIM.: $\phi$ 40mm*H105mm					
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	18.4	19.1	18.6	19.2	19.4	16.2	16.9	16.5	17.1	17.2
3H	18.2	18.9	18.5	19.1	19.2	16.1	16.7	16.3	16.9	17.1
4H	18.2	18.8	18.4	19.0	19.2	16.0	16.6	16.3	16.8	17.0
6H	18.1	18.6	18.3	18.9	19.1	15.9	16.5	16.2	16.7	17.0
8H	18.0	18.6	18.3	18.8	19.1	15.9	16.4	16.2	16.7	16.9
12H	18.0	18.5	18.3	18.8	19.0	15.8	16.4	16.2	16.6	16.9
4H 2H	18.2	18.8	18.4	19.0	19.2	16.0	16.6	16.3	16.8	17.0
3H	18.0	18.5	18.3	18.8	19.0	15.8	16.4	16.2	16.6	16.9
4H	17.9	18.4	18.2	18.7	19.0	15.8	16.2	16.1	16.5	16.8
6H	17.8	18.2	18.1	18.5	18.9	15.6	16.1	16.0	16.4	16.7
8H	17.7	18.1	18.1	18.5	18.8	15.6	16.0	16.0	16.3	16.7
12H	17.7	18.0	18.1	18.4	18.8	15.5	15.9	15.9	16.3	16.7
8H 4H	17.7	18.1	18.1	18.5	18.8	15.6	16.0	16.0	16.3	16.7
6H	17.6	17.9	18.0	18.3	18.7	15.5	15.8	15.9	16.2	16.6
8H	17.6	17.8	18.0	18.3	18.7	15.4	15.7	15.9	16.1	16.6
12H	17.5	17.7	18.0	18.2	18.7	15.4	15.6	15.8	16.1	16.5
12H 4H	17.7	18.0	18.1	18.4	18.8	15.5	15.9	15.9	16.3	16.7
6H	17.6	17.8	18.0	18.3	18.7	15.4	15.7	15.9	16.1	16.6
8H	17.5	17.7	18.0	18.2	18.7	15.4	15.6	15.8	16.1	16.5
Variations with the observer position at spacings:										
S = 1.0H	+ 2.9 / -17.5					+ 2.9 / -16.2				
1.5H	+ 5.6 / -15.2					+ 5.7 / -13.6				
2.0H	+ 7.5 / - 7.3					+ 5.4 / - 4.8				

CIE Pub.117, 822.2 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = -0.7$ )

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Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
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### UTILIZATION FACTORS TABLE

Test:U:48.00V I:0.2598A P:12.47W PF:1.000 Freq:0Hz Lamp Flux:822.227x1 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) $k(RI) \times RCR = 5$									
$k = 0.60$	91	86	82	91	85	82	90	85	82	79
0.80	98	93	90	98	93	90	96	92	89	86
1.00	102	97	94	101	96	93	100	96	93	89
1.25	105	101	98	104	100	97	103	99	97	93
1.50	108	104	101	107	103	100	104	101	99	95
2.00	110	106	103	109	105	103	106	103	101	96
2.50	111	108	105	110	107	104	107	104	103	97
3.00	113	110	107	111	108	106	108	106	104	98
4.00	115	112	110	113	111	109	109	107	106	99
5.00	116	114	112	114	112	111	110	109	107	100
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

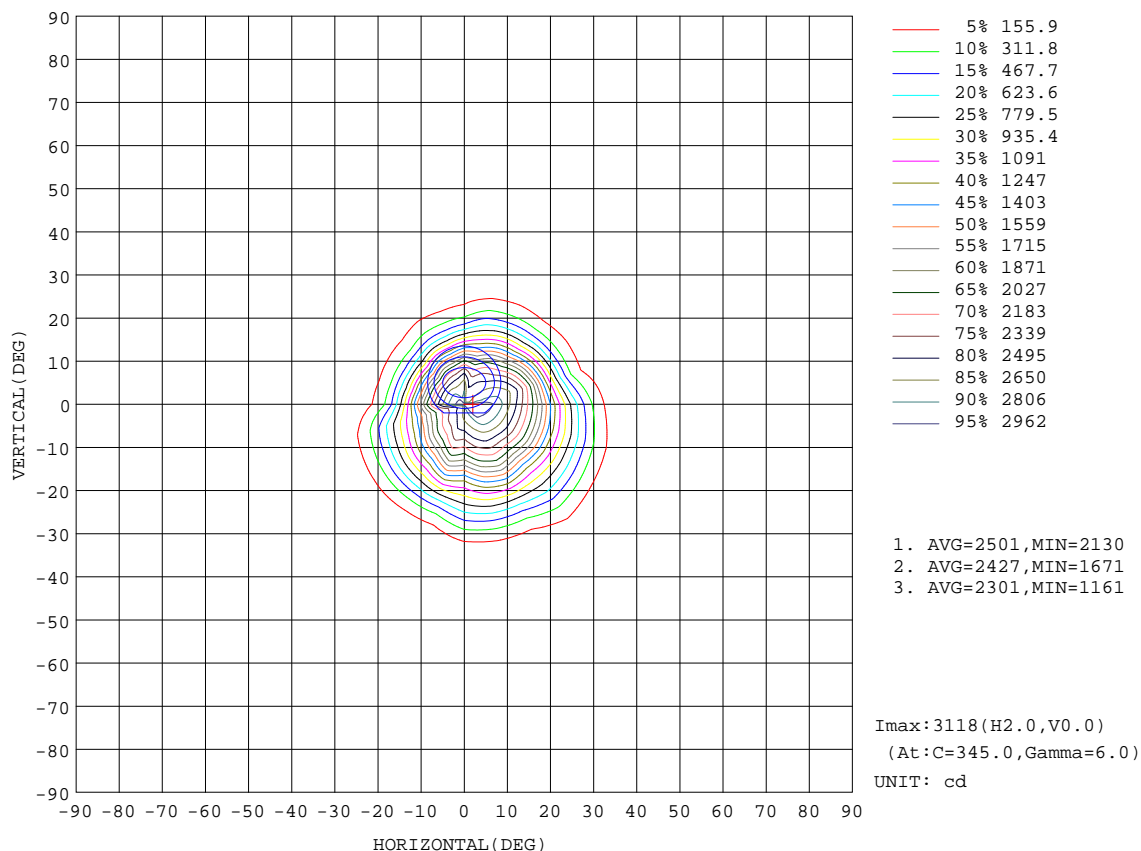
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ISOCANDELA DIAGRAM

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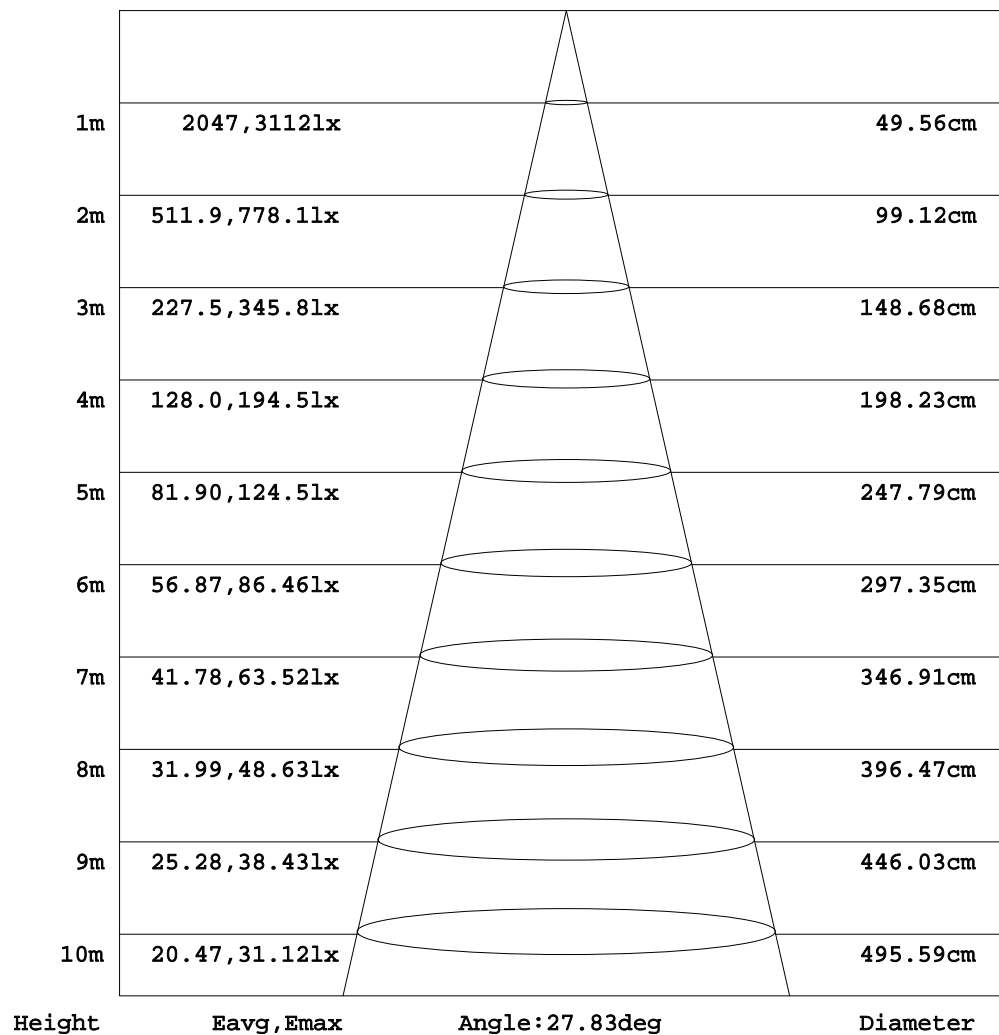
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**AAI Figure**

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Flux out:399.9 lm



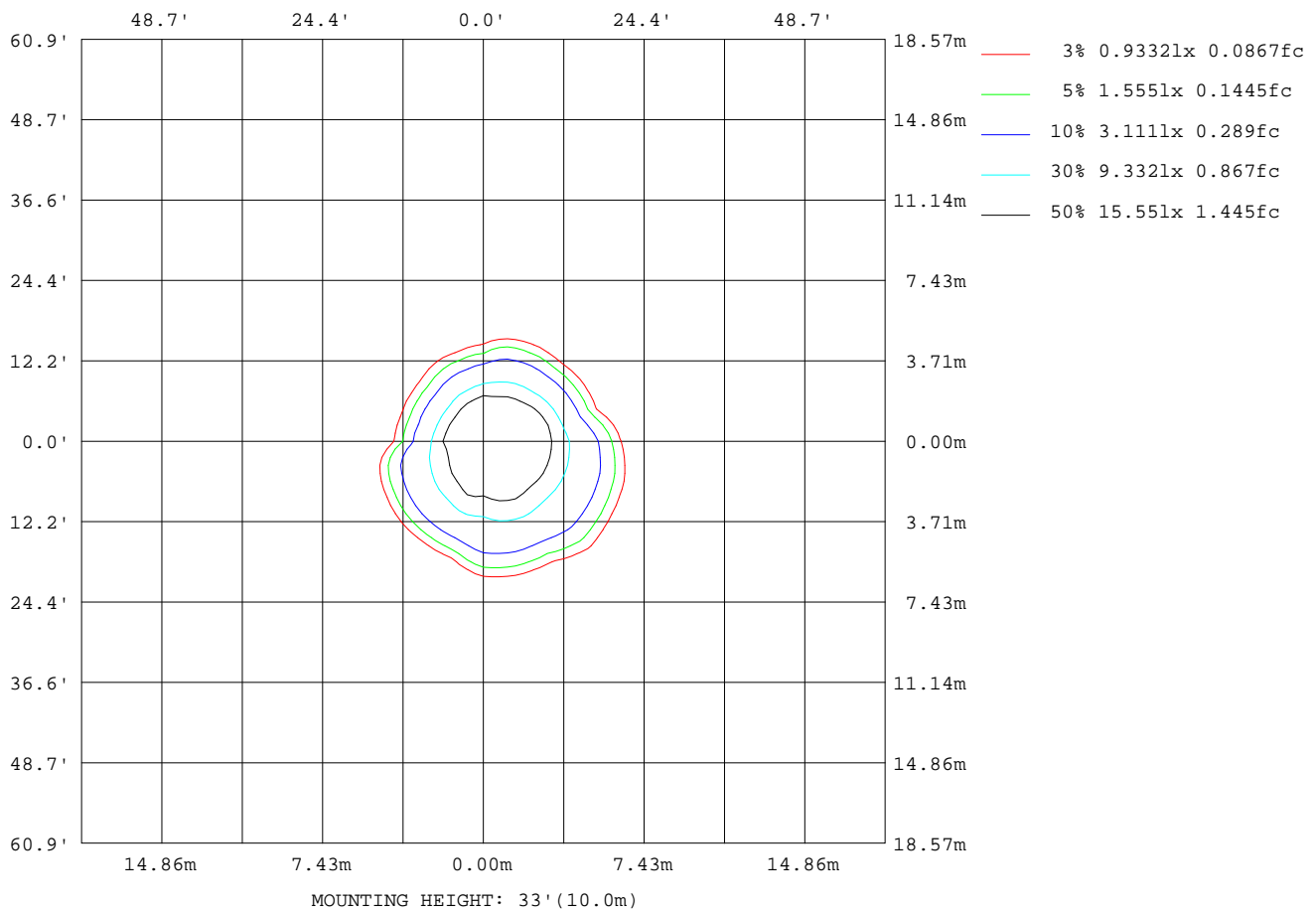
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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### LED Avg.L Report

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SPEC.:3000K	DIM.: $\phi$ 40mm*H105mm	
MFR.: NEKO LIGHTING AG		

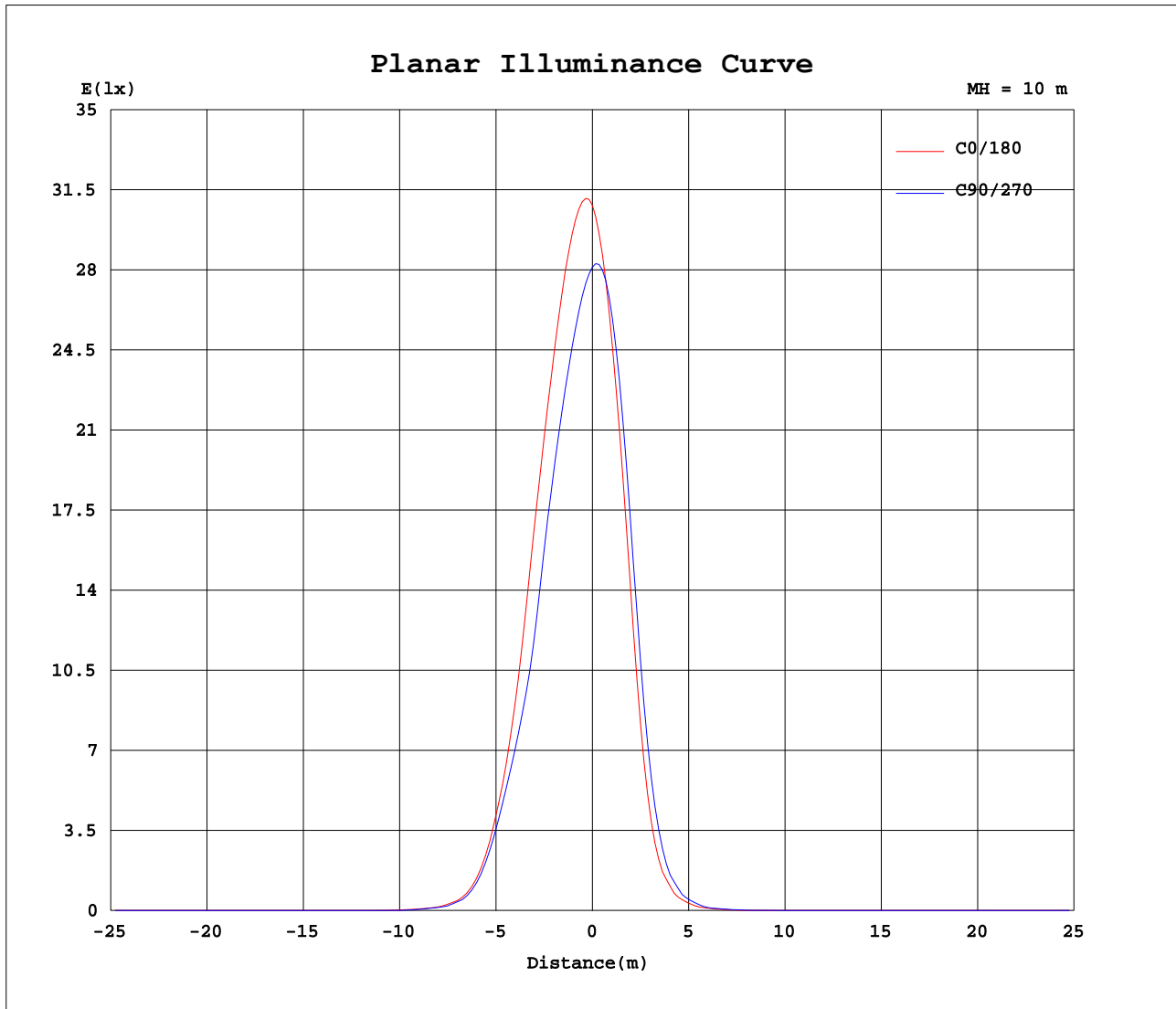
AvgL	cd/m2
L_0~180 (65) av	323
L_0~180 (75) av	162
L_0~180 (85) av	246
L_90~270 (65) av	300
L_90~270 (75) av	151
L_90~270 (85) av	239
L_45 (65) av	326
L_45 (75) av	171
L_45 (85) av	235

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Jason Long  
Test Date:2019-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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: 2019-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

```