

LED Downlight TAKEO Series T200-38W-940-30



Light Output Ratio:	100.0%	
Luminaire Power:	40.64 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

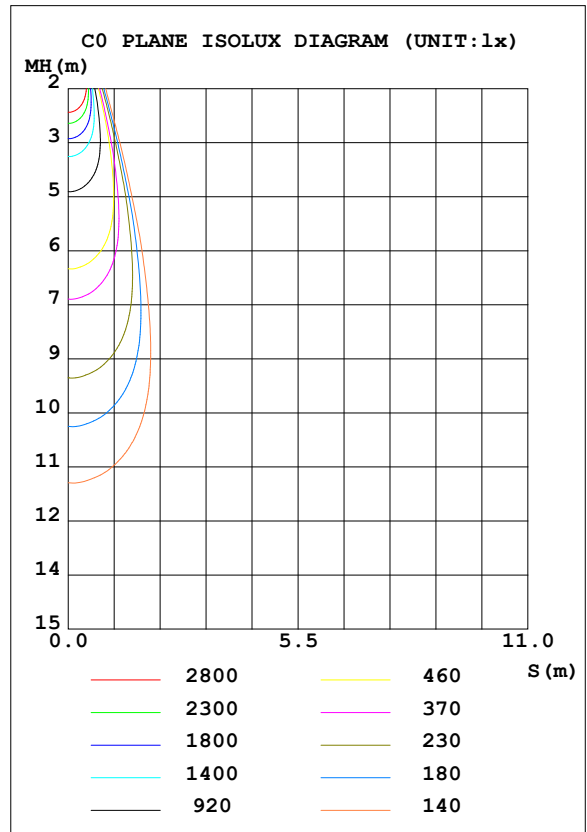
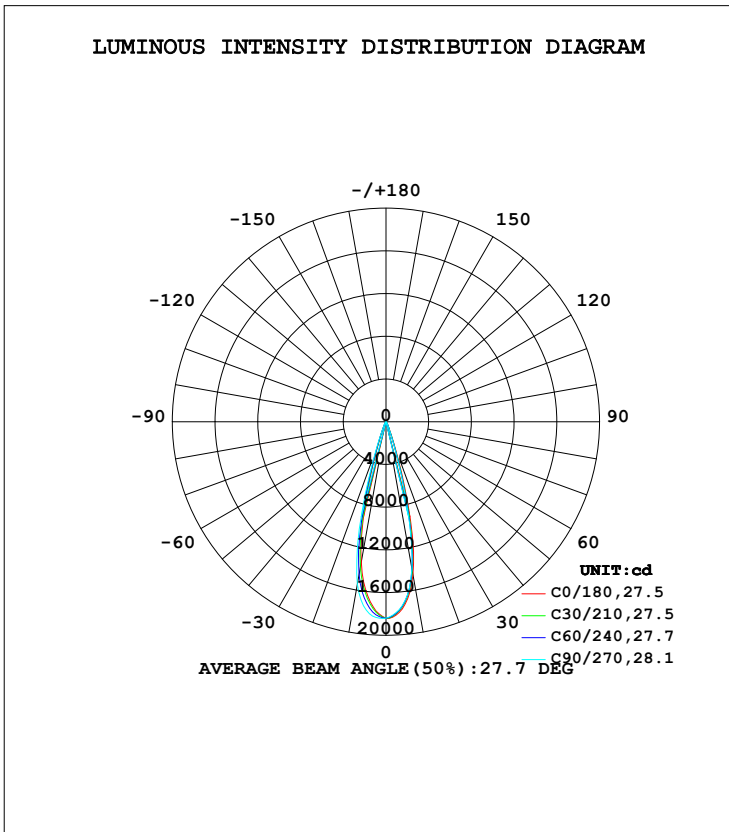
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Men Yongjian  
Test Date: 2018-07-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity: 56%  
Test Distance: 5.850m [K=1.0000]  
Remarks:

**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:220.2V I:0.1881A P:40.64W PF:0.9776 Freq:49.90Hz Lamp Flux:4134.18x1 lm		
NAME: T200-38W-940-30	TYPE:Downlight	SERIAL No.:
SPEC.:4000K	DIM.: φ218mm*H126mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.73 lm/W			
MODEL	CITIZEN-4000K	I <sub>max</sub> (cd)	18479	S/MH (C0/180)	0.41
NOMINAL POWER (W)	42	LOR (%)	100.0	S/MH (C90/270)	0.44
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	4134.2	η UP, DN (C0-180)	0.0, 47.9
NOMINAL FLUX (lm)	4134.18	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	220	η down (%)	100.0	CIBSE SHR MAX	1.00



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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	1458	1419	1398	1329	1336	1405	1545	1551	0- 10	1569	1569	38,38
20	216.2	188.4	169.1	172.6	175.9	187.2	242.4	248.5	10- 20	1993	3563	86.2,86.2
30	33.41	34.03	31.76	30.67	31.98	32.75	36.21	34.65	20- 30	348.0	3911	94.6,94.6
40	14.54	14.91	14.23	13.68	13.79	14.07	14.86	14.54	30- 40	136.1	4047	97.9,97.9
50	3.960	4.300	4.113	3.912	3.714	3.682	3.899	3.984	40- 50	64.19	4111	99.4,99.4
60	0.9790	1.036	0.9580	0.9663	0.9206	0.8835	0.9074	0.9990	50- 60	17.59	4128	99.9,99.9
70	0.1850	0.1916	0.1690	0.1603	0.1462	0.1400	0.1439	0.1727	60- 70	5.052	4133	100,100
80	0.0218	0.0188	0.0219	0.0190	0.0205	0.0216	0.0207	0.0244	70- 80	0.4942	4134	100,100
90	0.0166	0.0162	0.0173	0.0160	0.0137	0.0135	0.0140	0.0162	80- 90	0.2085	4134	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:×10cd									UNIT:lm		

Conical surface Flux(90deg): 4087.5 lm

%lum = 98.9%  
%lamp = 98.9%

Conical surface Flux(120deg): 4128.4 lm

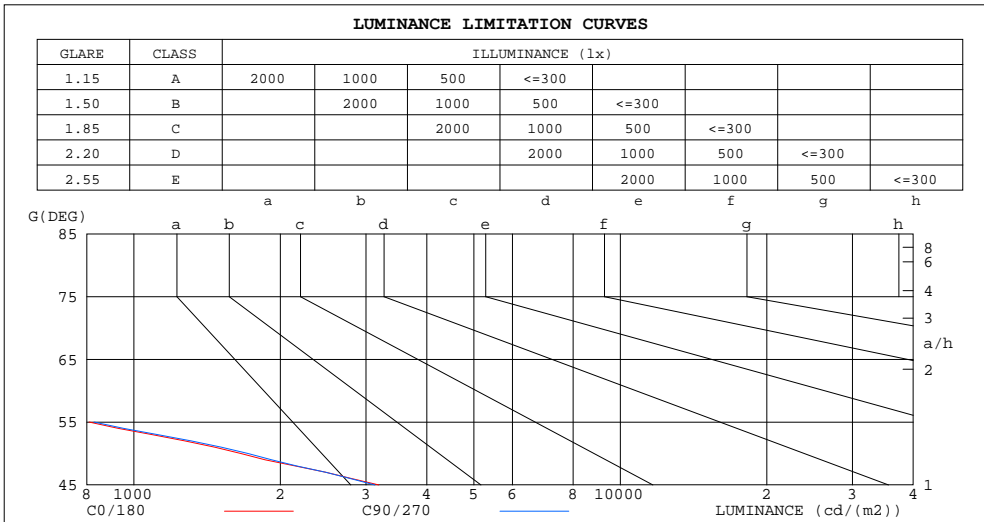
%lum = 99.9%  
%lamp = 99.9%

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$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
Humidity:56%  
Test Distance:5.850m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

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SPEC.:4000K	DIM.: φ218mm*H126mm	
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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	61	63
80	34	34
75	25	25
70	145	132
65	335	309
60	526	513
55	809	828
50	1657	1714
45	3187	3128

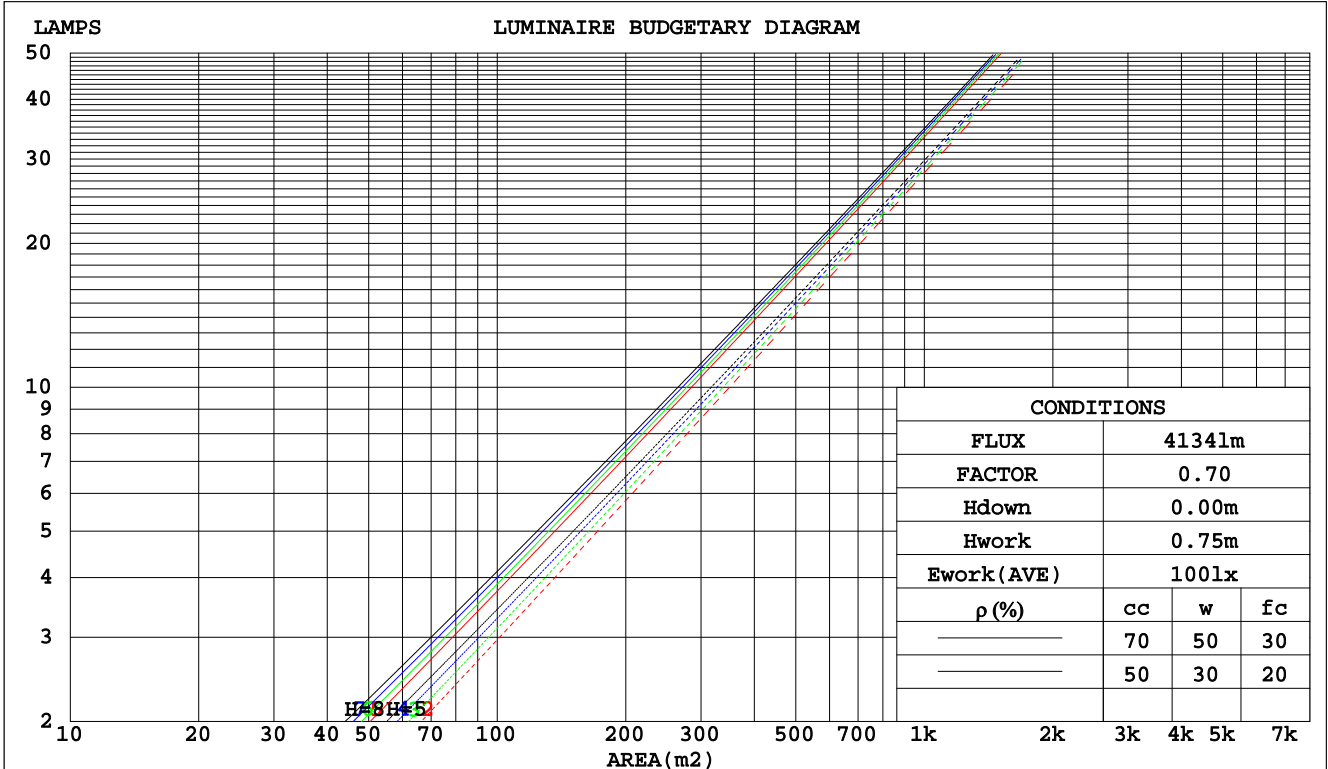
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**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

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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															
	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	1.10	1.11	1.09	1.08	1.07	1.06	1.05	1.03	1.02	1.01	.00	.99	.99	.97
2.0	1.08	1.05	1.03	1.06	1.04	1.02	1.03	1.01	.99	1.00	.99	.97	.98	.96	.95	.94
3.0	1.04	1.00	.97	1.02	.99	.97	.00	.97	.95	.98	.95	.94	.95	.94	.92	.91
4.0	.00	.96	.93	.99	.95	.92	.97	.94	.91	.95	.92	.90	.93	.91	.89	.88
5.0	.96	.92	.89	.95	.92	.89	.94	.91	.88	.92	.90	.88	.91	.89	.87	.86
6.0	.93	.89	.86	.93	.89	.86	.91	.88	.86	.90	.87	.85	.89	.86	.84	.83
7.0	.90	.86	.84	.90	.86	.83	.89	.85	.83	.88	.85	.83	.87	.84	.82	.81
8.0	.88	.84	.81	.87	.84	.81	.86	.83	.81	.86	.83	.80	.85	.82	.80	.79
9.0	.86	.82	.79	.85	.81	.79	.84	.81	.79	.84	.81	.78	.83	.80	.78	.77
10.0	.83	.80	.77	.83	.79	.77	.82	.79	.77	.82	.79	.77	.81	.78	.76	.76



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WEC AND CCEC

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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	.133	.076	.024	.127	.072	.023	.114	.066	.021	.103	.059	.019	.093	.054	.017	
2.0	.123	.068	.021	.118	.065	.020	.108	.060	.019	.098	.055	.017	.090	.051	.016	
3.0	.115	.061	.018	.110	.059	.018	.102	.055	.017	.094	.051	.016	.087	.048	.015	
4.0	.107	.056	.016	.103	.054	.016	.096	.051	.015	.090	.048	.015	.084	.045	.014	
5.0	.101	.051	.015	.098	.050	.015	.092	.048	.014	.086	.045	.013	.081	.043	.013	
6.0	.095	.048	.014	.092	.047	.013	.087	.045	.013	.082	.043	.013	.078	.041	.012	
7.0	.090	.045	.013	.088	.044	.012	.083	.042	.012	.079	.041	.012	.075	.039	.011	
8.0	.086	.042	.012	.084	.041	.012	.080	.040	.011	.076	.039	.011	.073	.037	.011	
9.0	.082	.040	.011	.080	.039	.011	.077	.038	.011	.073	.037	.011	.070	.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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.128	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.135	.113	.096	.115	.098	.083	.079	.068	.059	.046	.040	.035	.015	.013	.011	
4.0	.122	.098	.079	.105	.085	.069	.072	.059	.049	.042	.035	.029	.013	.011	.009	
5.0	.111	.085	.066	.095	.074	.058	.066	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.102	.075	.056	.088	.065	.049	.061	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.094	.067	.048	.081	.058	.042	.056	.041	.030	.033	.024	.018	.011	.008	.006	
8.0	.088	.060	.041	.076	.052	.036	.052	.037	.026	.030	.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	

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γ Range: 0 - 90DEG  
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 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity:56%  
 Test Distance:5.850m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.2V I:0.1881A P:40.64W PF:0.9776 Freq:49.90Hz Lamp Flux:4134.18x1 lm		
NAME: T200-38W-940-30	TYPE:Downlight	SERIAL No.:
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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	0.8	1.4	1.0	1.5	1.7	0.7	1.3	0.9	1.5	1.6
3H	0.6	1.2	0.9	1.4	1.6	0.6	1.2	0.8	1.3	1.5
4H	0.6	1.1	0.8	1.3	1.5	0.5	1.0	0.7	1.3	1.5
6H	0.5	1.0	0.8	1.2	1.5	0.4	0.9	0.7	1.2	1.4
8H	0.4	0.9	0.7	1.2	1.4	0.4	0.9	0.7	1.1	1.4
12H	0.4	0.9	0.7	1.1	1.4	0.3	0.8	0.6	1.1	1.3
4H 2H	0.6	1.1	0.8	1.4	1.6	0.5	1.1	0.8	1.3	1.5
3H	0.5	0.9	0.8	1.2	1.5	0.4	0.9	0.7	1.1	1.4
4H	0.4	0.8	0.7	1.1	1.4	0.3	0.7	0.6	1.0	1.3
6H	0.3	0.7	0.6	1.0	1.3	0.2	0.6	0.6	0.9	1.3
8H	0.2	0.6	0.6	0.9	1.3	0.1	0.5	0.5	0.9	1.2
12H	0.1	0.5	0.6	0.9	1.2	0.1	0.4	0.5	0.8	1.2
8H 4H	0.2	0.6	0.6	0.9	1.3	0.1	0.5	0.5	0.9	1.2
6H	0.1	0.4	0.5	0.8	1.2	0.0	0.3	0.4	0.7	1.1
8H	0.0	0.3	0.5	0.7	1.2	-0.0	0.2	0.4	0.6	1.1
12H	-0.0	0.2	0.4	0.6	1.1	-0.1	0.1	0.4	0.6	1.0
12H 4H	0.1	0.5	0.5	0.9	1.2	0.1	0.4	0.5	0.8	1.2
6H	0.0	0.3	0.5	0.7	1.2	-0.0	0.2	0.4	0.6	1.1
8H	-0.0	0.2	0.4	0.6	1.1	-0.1	0.1	0.4	0.6	1.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.4 / - 8.1					+ 2.4 / - 7.9				
1.5H	+ 3.5 / - 6.5					+ 3.4 / - 6.3				
2.0H	+ 5.6 / - 6.5					+ 5.4 / - 6.4				

CIE Pub.117, 4134 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.9)

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γ Range: 0 - 90DEG  
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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	112	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			

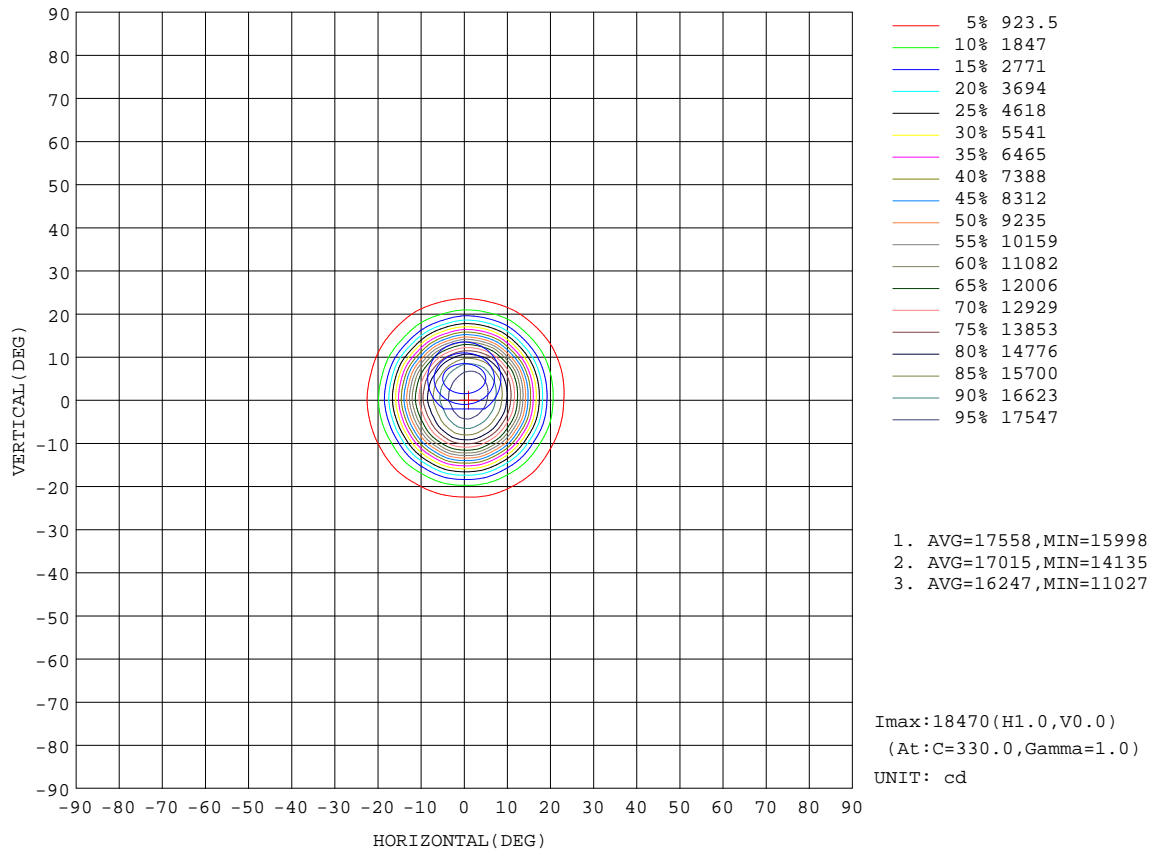
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**ISOCANDELA DIAGRAM**

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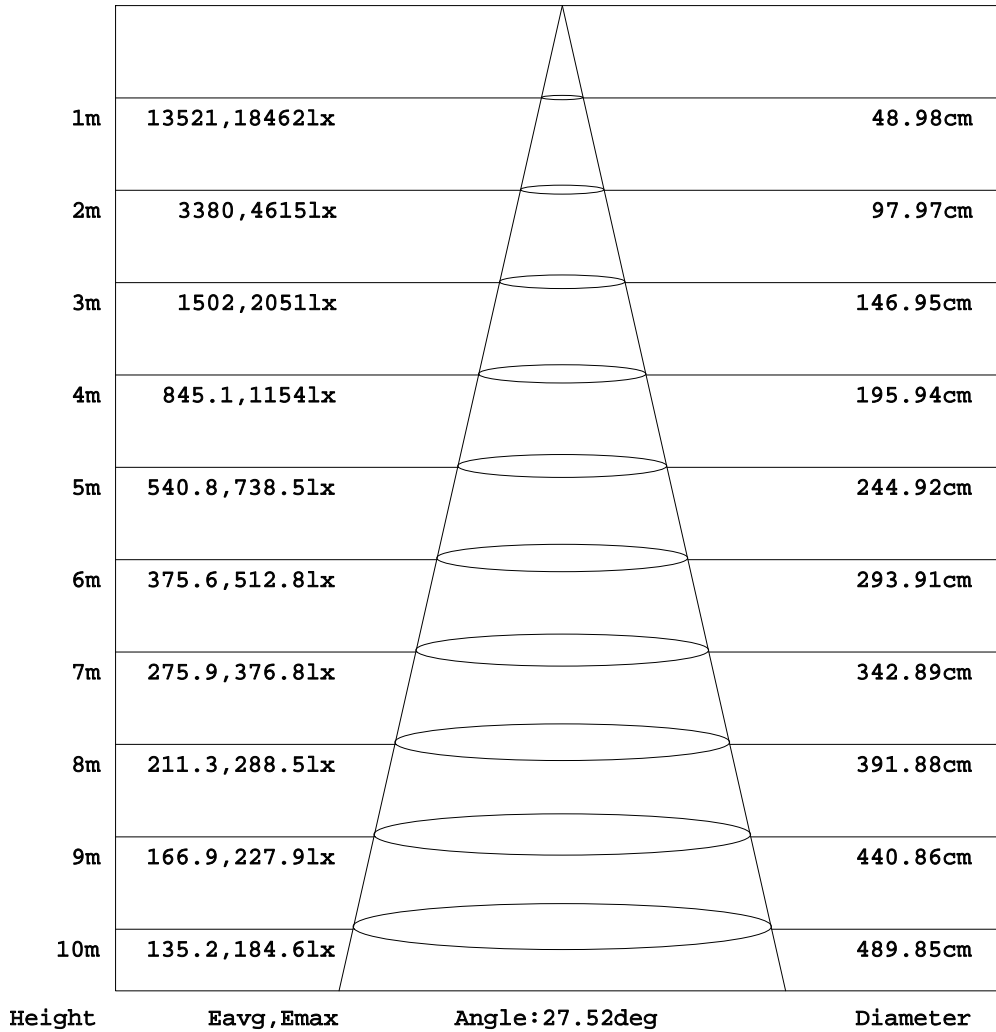
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**AAI Figure**

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Flux out:2641 lm



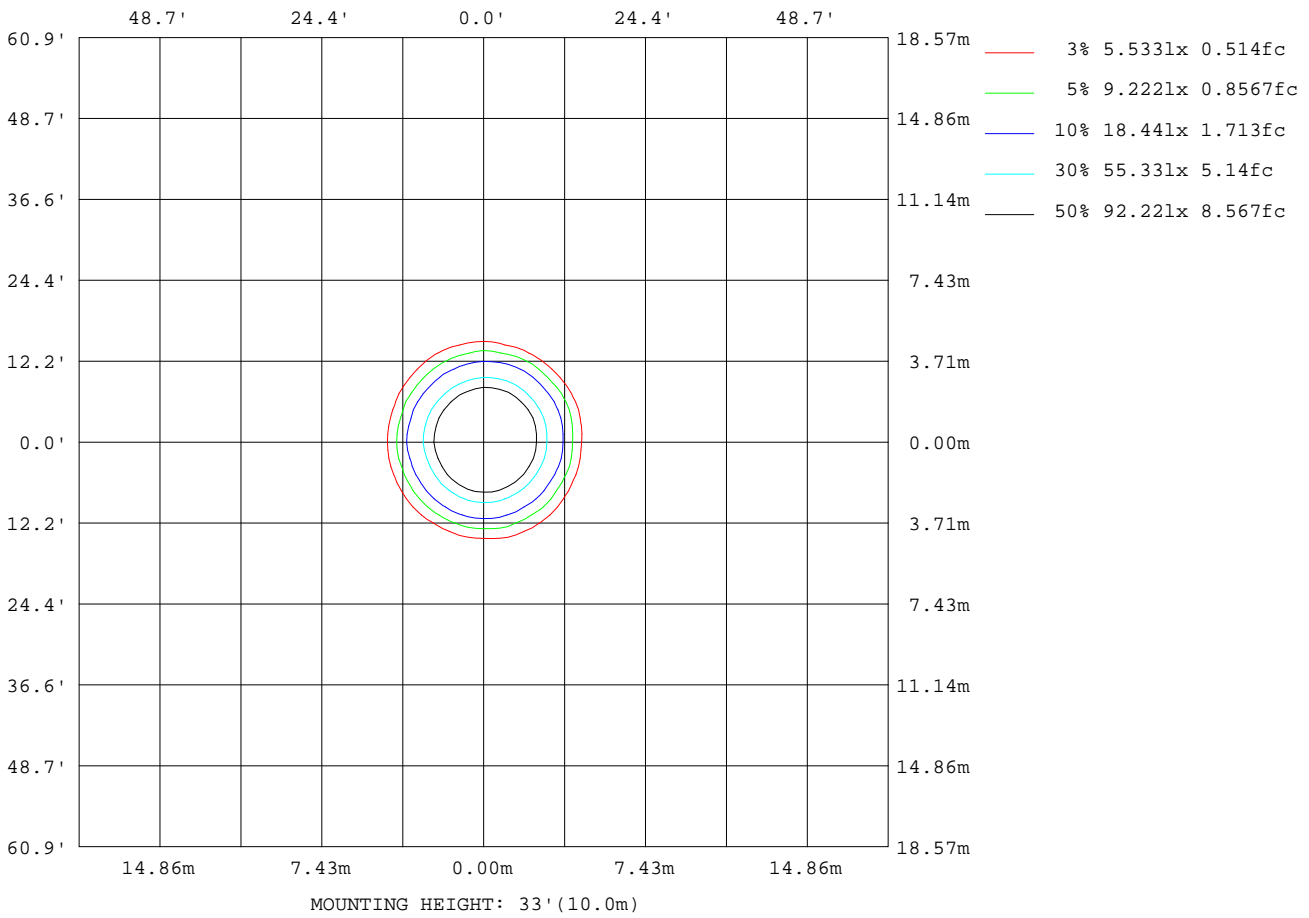
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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**ISOLUX DIAGRAM**

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LED Avg.L Report

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SPEC.:4000K	DIM.: φ218mm*H126mm	
MFR.: NEKO LIGHTING AG		

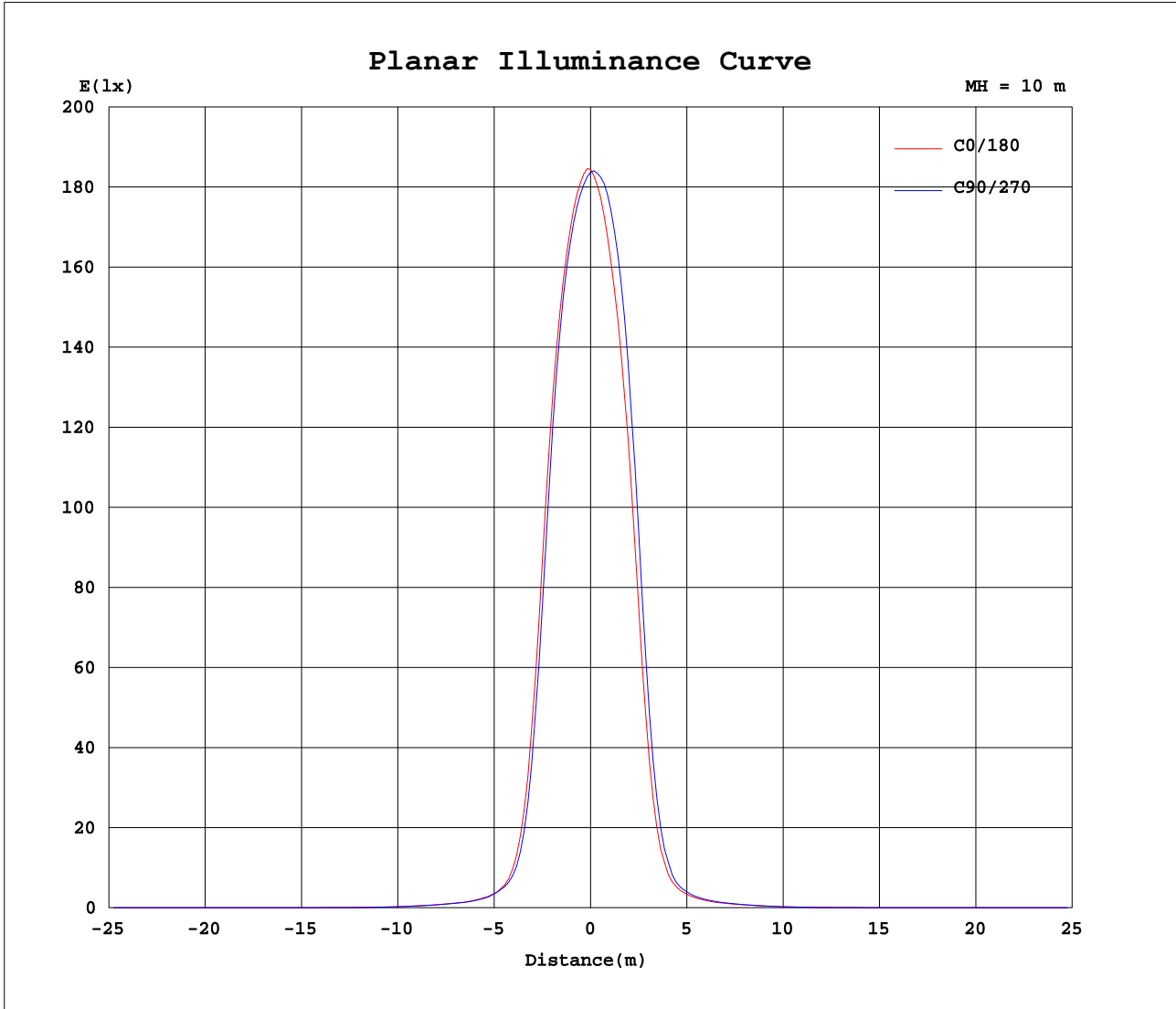
AvgL	cd/m2
L_0~180 (65) av	319
L_0~180 (75) av	24
L_0~180 (85) av	61
L_90~270 (65) av	298
L_90~270 (75) av	24
L_90~270 (85) av	62
L_45 (65) av	318
L_45 (75) av	24
L_45 (85) av	60

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Men Yongjian  
Test Date:2018-07-04

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
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: Men Yongjian  
 Test Date: 2018-07-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.288  
 Humidity: 56%  
 Test Distance: 5.850m [K=1.0000]  
 Remarks:



