

LED Downlight TAKEO Series T200-52W-930-30



Light Output Ratio:	100.0%	
Luminaire Power:	52.36 W	
SHR Nominal:	0.00	Calculated using the TM5
SHR Maximum:	1.00	fine grid method.

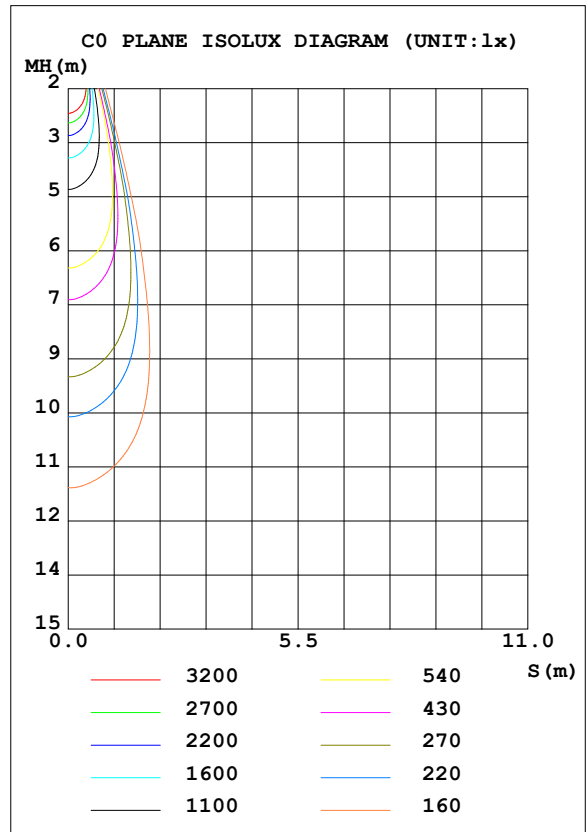
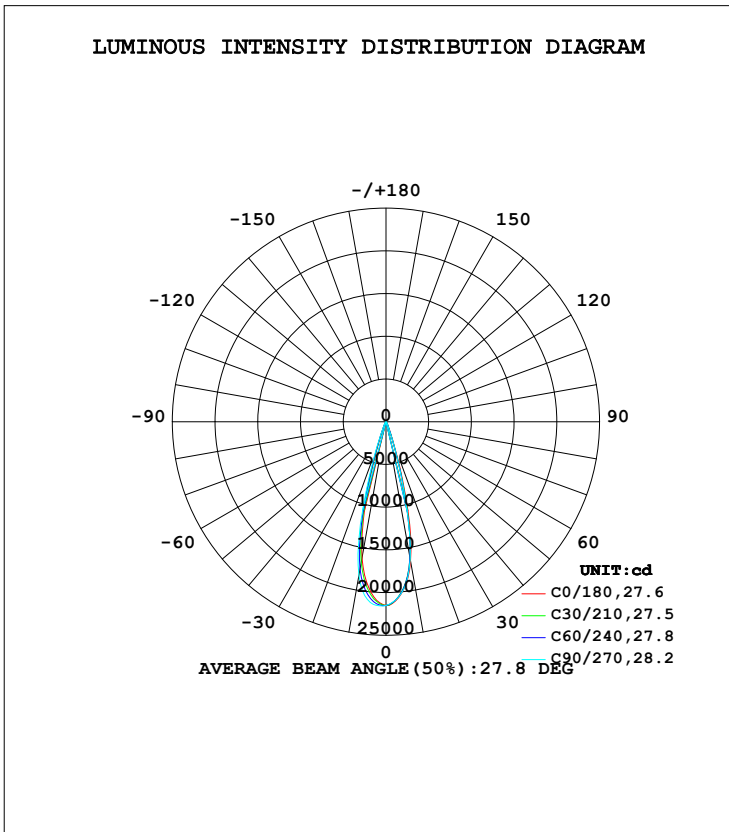
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Men Yongjian
 Test Date: 2018-07-04

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:

LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:37.40V I:1.400A P:52.36W PF:1.000 Freq:0Hz Lamp Flux:4826.77x1 lm		
NAME: T200-52W-930-30	TYPE:Downlight	SERIAL No.:
SPEC.:3000K	DIM.: φ218mm*H126mm	
MFR.: NEKO LIGHTING AG		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.18 lm/W			
MODEL	CITIZEN-3000K	I _{max} (cd)	21594	S/MH (C0/180)	0.42
NOMINAL POWER (W)	52	LOR (%)	100.0	S/MH (C90/270)	0.44
RATED VOLTAGE (V)	38	TOTAL FLUX (lm)	4826.8	η UP, DN (C0-180)	0.0, 47.4
NOMINAL FLUX (lm)	4826.77	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00
TEST VOLTAGE (V)	37.4	η down (%)	100.0	CIBSE SHR MAX	1.00



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ZONAL FLUX DIAGRAM

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γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1659	1623	1630	1585	1622	1697	1828	1778	0- 10	1837	1837	38.1,38.1
20	230.5	207.9	192.3	191.7	212.9	231.8	296.4	272.9	10- 20	2329	4166	86.3,86.3
30	38.83	38.76	36.57	35.44	37.23	38.95	42.00	39.57	20- 30	399.9	4566	94.6,94.6
40	17.44	17.42	16.63	15.62	16.30	16.66	17.51	16.67	30- 40	158.5	4725	97.9,97.9
50	4.840	5.005	4.730	4.416	4.258	4.396	4.592	4.717	40- 50	75.13	4800	99.4,99.4
60	1.174	1.186	1.117	1.121	1.045	1.045	1.035	1.142	50- 60	20.49	4820	99.9,99.9
70	0.2211	0.2299	0.1894	0.1753	0.1636	0.1578	0.1694	0.2054	60- 70	5.825	4826	100,100
80	0.0256	0.0223	0.0249	0.0219	0.0242	0.0243	0.0240	0.0262	70- 80	0.5680	4827	100,100
90	0.0190	0.0186	0.0190	0.0177	0.0153	0.0151	0.0155	0.0168	80- 90	0.2355	4827	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): 4772.4 lm

%lum = 98.9%

%lamp = 98.9%

Conical surface Flux(120deg): 4820.1 lm

%lum = 99.9%

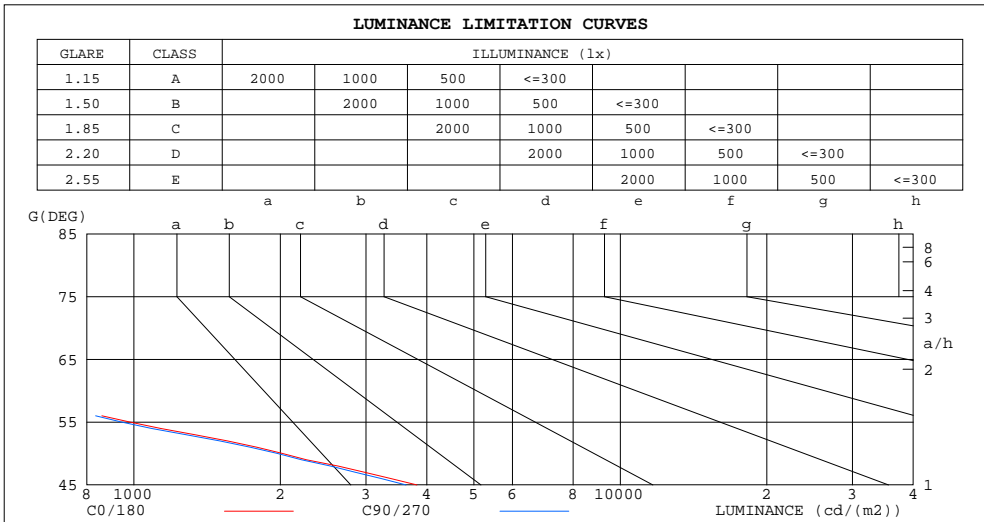
%lamp = 99.9%

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LUMINANCE LIMITATION CURVES

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LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	70	69
80	39	38
75	30	29
70	173	148
65	398	360
60	629	599
55	981	943
50	2019	1972
45	3818	3626

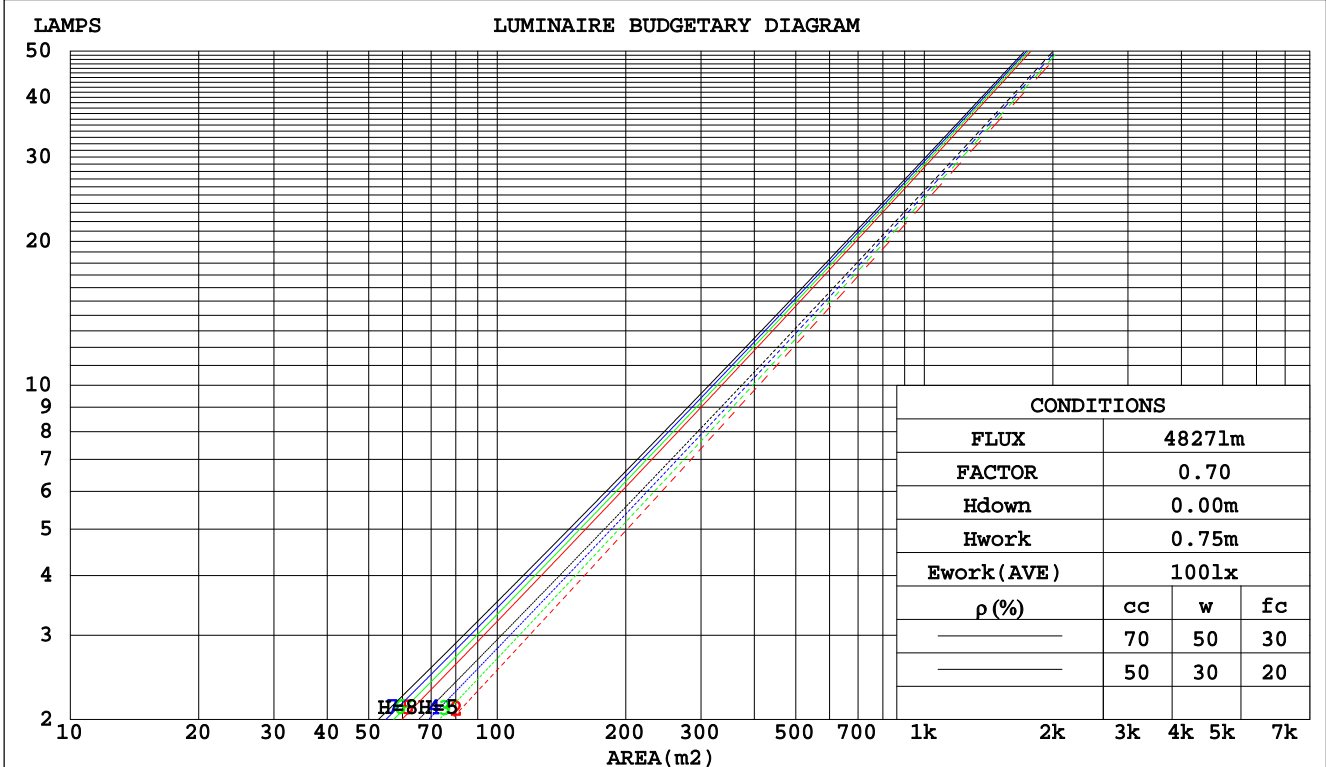
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																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	1.13	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	.93	.97	.94	.91	.95	.92	.90	.93	.91	.90	.88
5.0	.96	.92	.89	.96	.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	.85	.84
7.0	.90	.86	.84	.90	.86	.83	.89	.86	.83	.88	.85	.83	.87	.84	.82	.81
8.0	.88	.84	.81	.87	.84	.81	.87	.83	.81	.86	.83	.81	.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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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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.133	.076	.024	.127	.072	.023	.114	.066	.021	.103	.059	.019	.092	.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	.086	.048	.015	
4.0	.107	.056	.016	.103	.054	.016	.096	.051	.015	.090	.048	.015	.083	.045	.014	
5.0	.101	.051	.015	.098	.050	.015	.091	.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	.078	.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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 Humidity:56%
 Test Distance:5.850m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

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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	1.5	1.0	1.6	1.8	0.6	1.3	0.8	1.4	1.6
3H	0.7	1.3	1.0	1.5	1.7	0.5	1.1	0.8	1.3	1.5
4H	0.6	1.2	0.9	1.4	1.6	0.4	1.0	0.7	1.2	1.4
6H	0.6	1.1	0.8	1.3	1.5	0.4	0.9	0.6	1.1	1.3
8H	0.5	1.0	0.8	1.3	1.5	0.3	0.8	0.6	1.1	1.3
12H	0.5	1.0	0.8	1.2	1.5	0.3	0.8	0.6	1.0	1.3
4H 2H	0.7	1.2	0.9	1.4	1.6	0.5	1.0	0.7	1.2	1.4
3H	0.5	1.0	0.8	1.3	1.5	0.3	0.8	0.6	1.1	1.3
4H	0.4	0.9	0.8	1.2	1.5	0.2	0.7	0.6	1.0	1.3
6H	0.3	0.7	0.7	1.1	1.4	0.1	0.5	0.5	0.9	1.2
8H	0.3	0.7	0.7	1.0	1.4	0.1	0.5	0.5	0.8	1.2
12H	0.2	0.6	0.6	0.9	1.3	0.0	0.4	0.4	0.7	1.1
8H 4H	0.3	0.7	0.7	1.0	1.4	0.1	0.5	0.5	0.8	1.2
6H	0.2	0.5	0.6	0.9	1.3	-0.0	0.3	0.4	0.7	1.1
8H	0.1	0.4	0.5	0.8	1.2	-0.1	0.2	0.4	0.6	1.0
12H	0.0	0.3	0.5	0.7	1.2	-0.2	0.1	0.3	0.5	1.0
12H 4H	0.2	0.6	0.6	0.9	1.3	0.0	0.4	0.4	0.7	1.1
6H	0.1	0.4	0.5	0.8	1.2	-0.1	0.2	0.4	0.6	1.0
8H	0.0	0.3	0.5	0.7	1.2	-0.2	0.1	0.3	0.5	1.0
Variations with the observer position at spacings:										
S = 1.0H	+ 2.4 / - 8.1					+ 2.4 / - 8.0				
1.5H	+ 3.5 / - 6.7					+ 3.5 / - 6.5				
2.0H	+ 5.6 / - 6.6					+ 5.5 / - 6.5				

CIE Pub.117, 4827 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 5.5)

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UTILIZATION FACTORS TABLE

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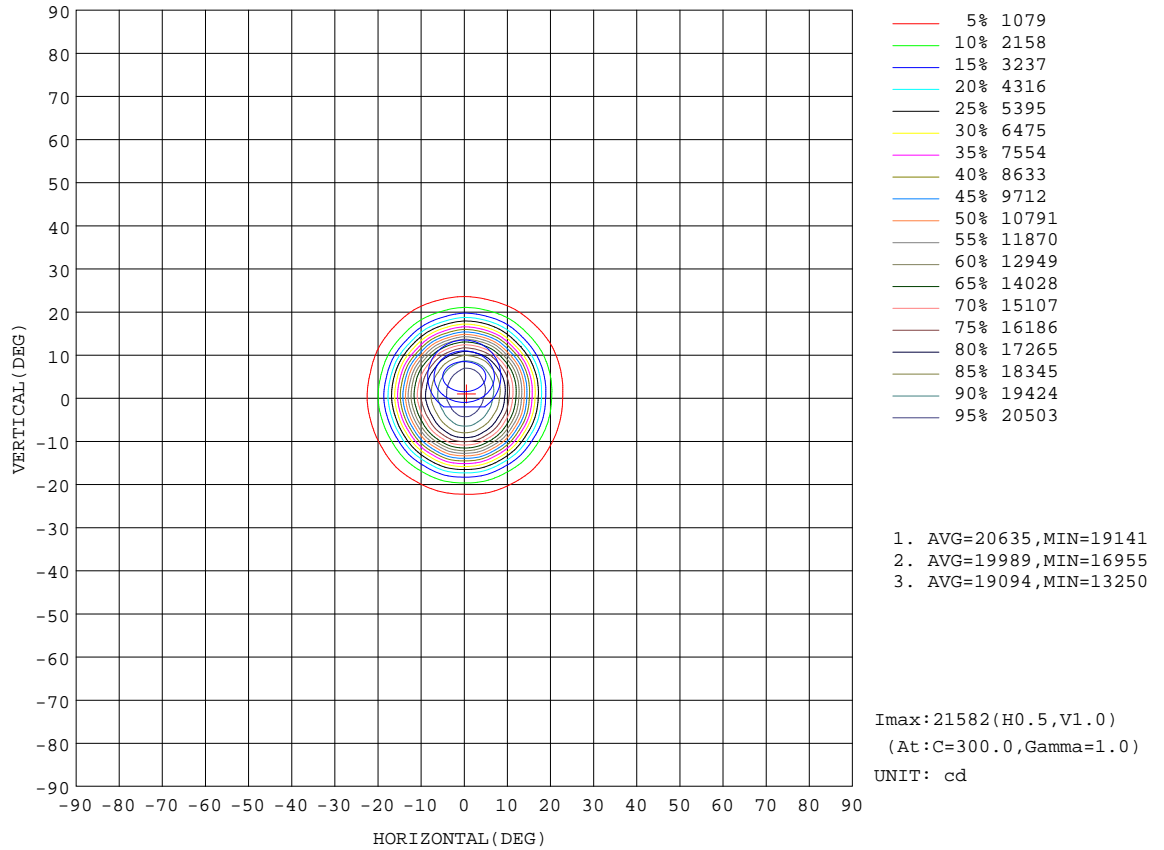
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	97	92	88	96	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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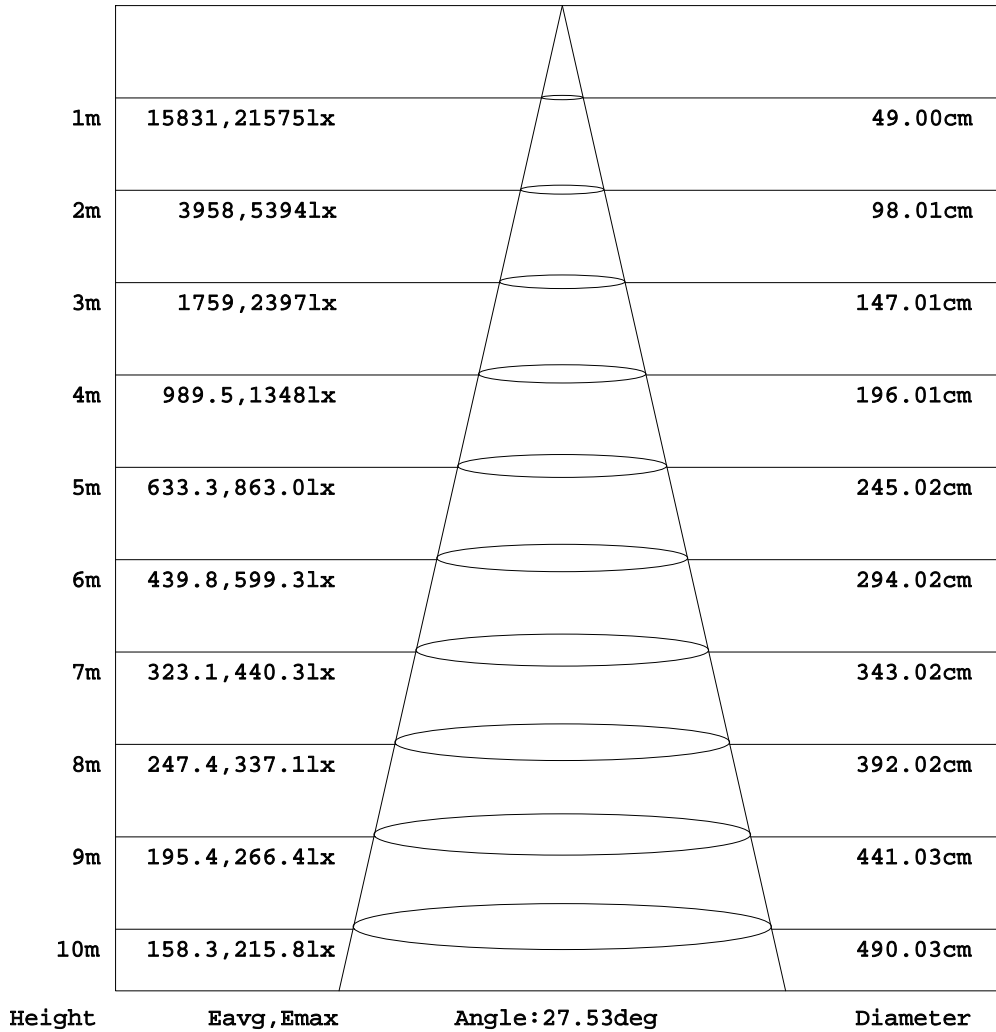
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AAI Figure

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Flux out:3092 lm



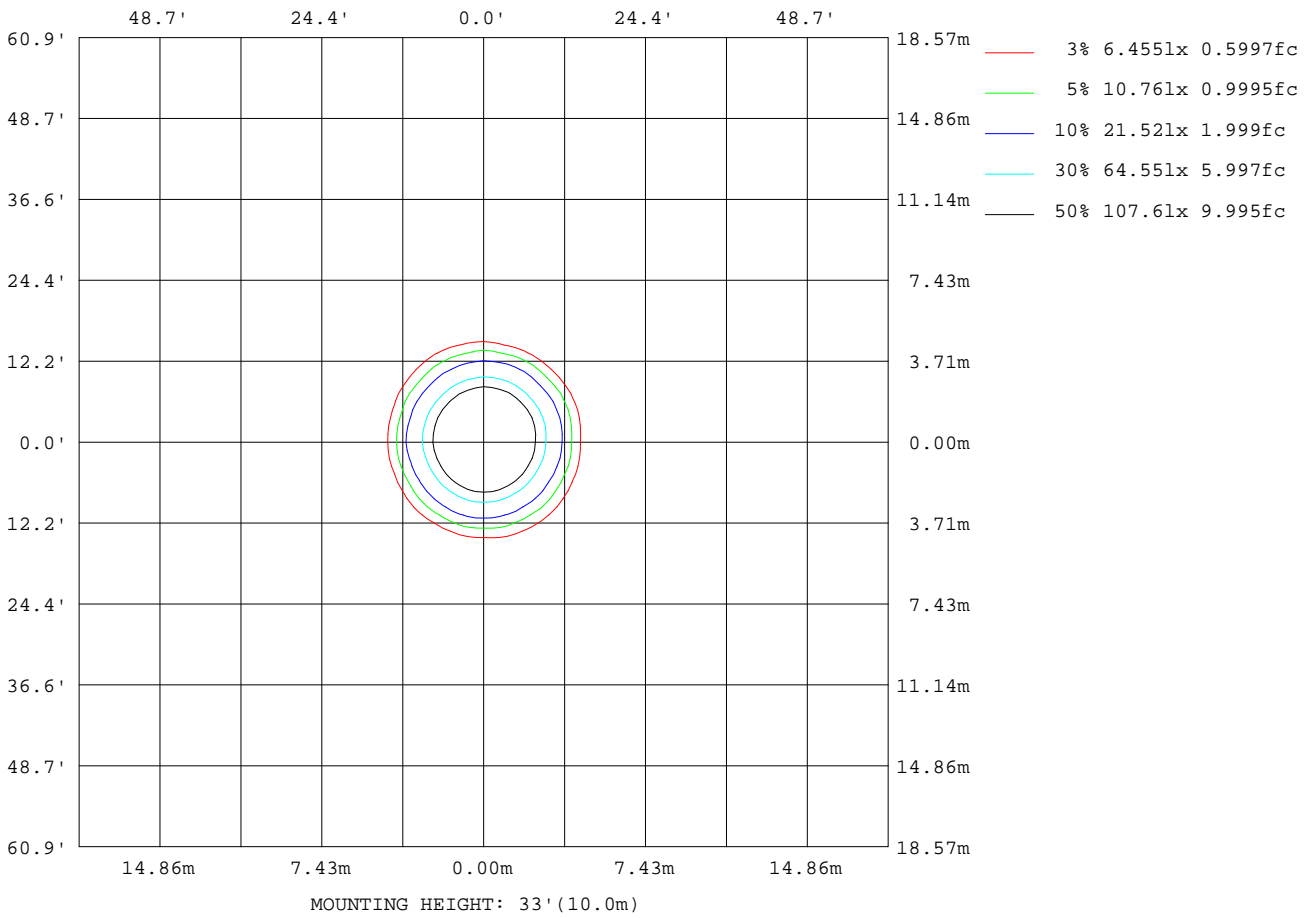
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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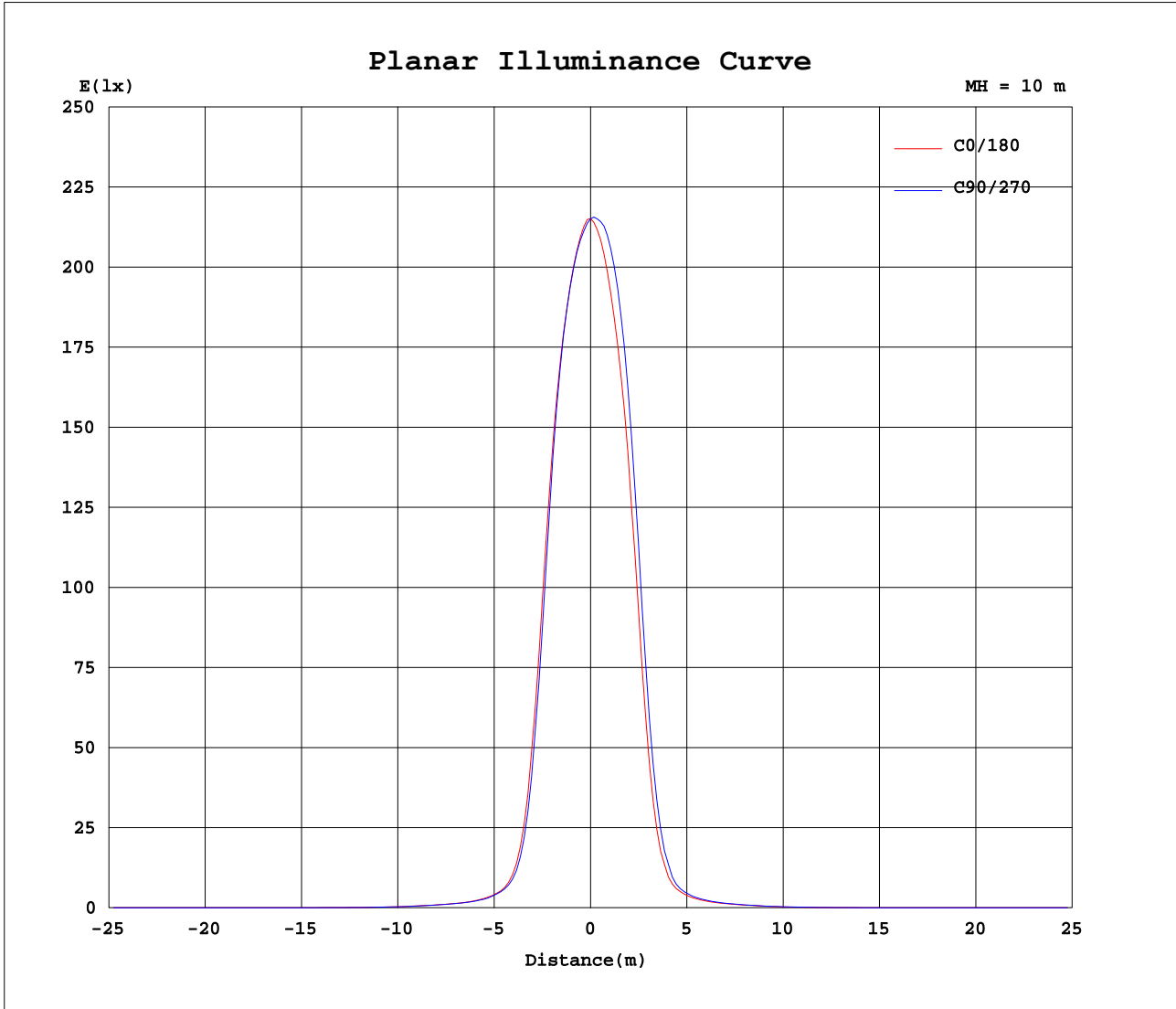
AvgL	cd/m2
L_0~180 (65) av	369
L_0~180 (75) av	28
L_0~180 (85) av	69
L_90~270 (65) av	345
L_90~270 (75) av	27
L_90~270 (85) av	70
L_45 (65) av	366
L_45 (75) av	27
L_45 (85) av	68

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

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:

