

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

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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	3166	3201	3173	3119	3053	3028	3062	3108	0- 10	322.5	322.5	19.9,19.9
20	1730	1714	1640	1550	1464	1443	1528	1619	10- 20	657.2	979.7	60.3,60.3
30	447.5	463.9	440.7	408.0	365.6	351.1	372.3	407.6	20- 30	397.1	1377	84.8,84.8
40	126.9	132.9	126.4	118.8	109.2	104.5	109.9	117.0	30- 40	138.9	1516	93.3,93.3
50	51.15	53.94	53.11	49.44	46.35	46.04	48.03	48.43	40- 50	58.90	1575	97,97
60	24.93	26.24	25.51	22.80	21.59	21.90	23.15	23.43	50- 60	31.13	1606	98.9,98.9
70	8.731	8.445	7.784	6.134	5.695	6.821	7.848	8.516	60- 70	14.78	1621	99.8,99.8
80	1.410	1.236	1.041	0.8947	0.8955	1.033	1.310	1.446	70- 80	3.046	1624	100,100
90	0.0560	0.0289	0.0498	0.0334	0.0334	0.0299	0.0382	0.0376	80- 90	0.4121	1624	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): 1550.3 lm

%lum = 95.5%

%lamp = 95.5%

Conical surface Flux(120deg): 1605.8 lm

%lum = 98.9%

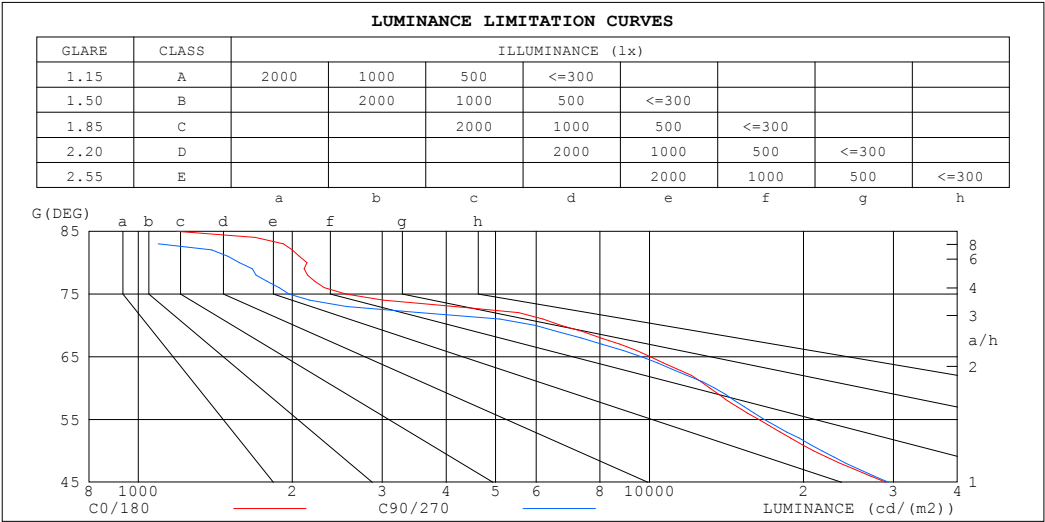
%lamp = 98.9%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz		
UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1187	418
80	2137	1577
75	2549	1971
70	6720	5988
65	10043	9644
60	13124	13421
55	16382	16767
50	20948	21738
45	29023	29370

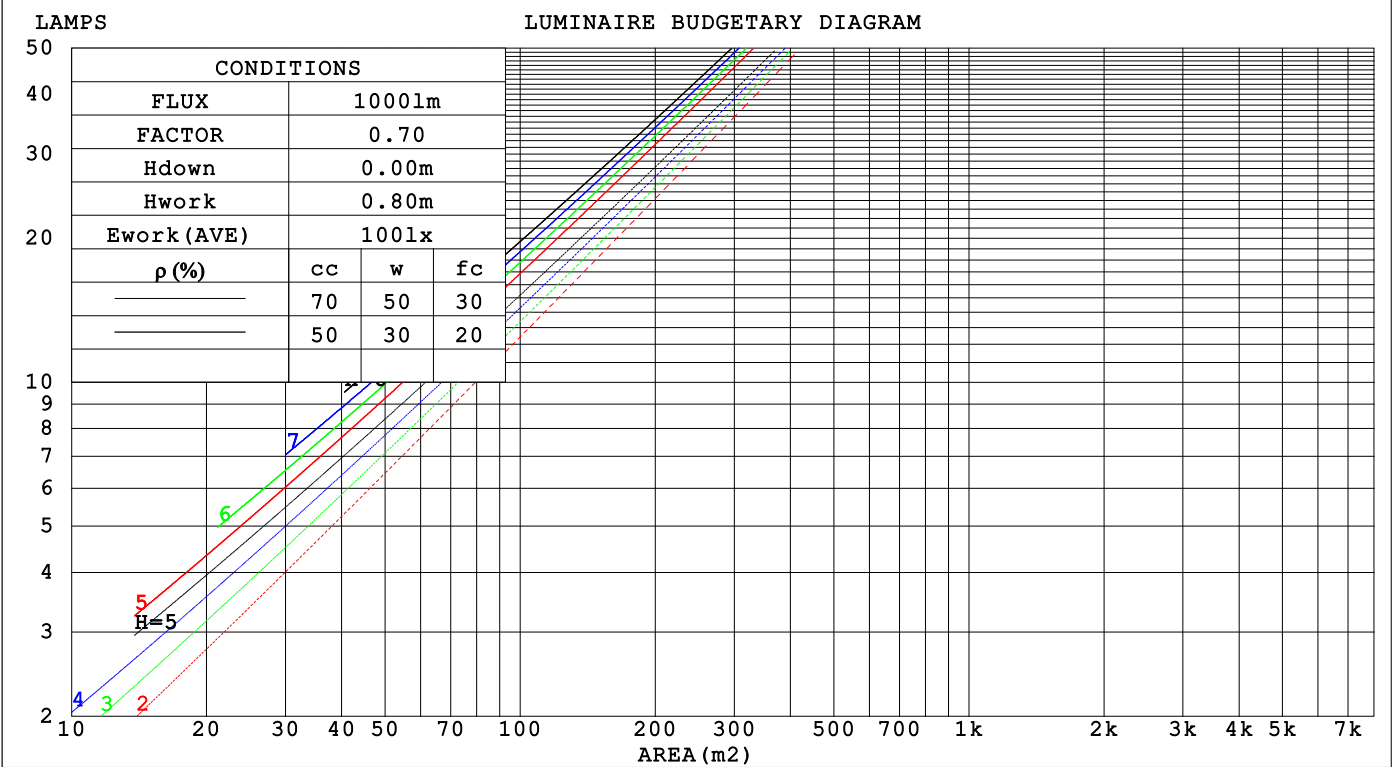
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γ Range: 0 - 90DEG
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Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz		
UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

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	1.09	1.07	1.09	1.07	1.06	1.05	1.04	1.02	1.02	1.01	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	1.00	.97	.95	.97	.95	.93	.94	.93	.91	.90
3.0	.99	.95	.91	.98	.94	.90	.95	.92	.89	.93	.90	.88	.91	.88	.86	.85
4.0	.94	.89	.85	.93	.88	.85	.91	.87	.84	.89	.85	.83	.87	.84	.82	.80
5.0	.89	.84	.80	.88	.83	.80	.86	.82	.79	.85	.81	.78	.83	.80	.78	.76
6.0	.85	.80	.76	.84	.79	.76	.83	.78	.75	.81	.77	.75	.80	.77	.74	.73
7.0	.81	.76	.72	.80	.75	.72	.79	.75	.72	.78	.74	.71	.77	.73	.71	.70
8.0	.77	.72	.69	.77	.72	.69	.76	.71	.68	.75	.71	.68	.74	.70	.68	.67
9.0	.74	.69	.66	.74	.69	.66	.73	.68	.65	.72	.68	.65	.71	.68	.65	.64
10.0	.71	.66	.63	.71	.66	.63	.70	.66	.63	.69	.65	.62	.69	.65	.62	.61



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Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz		
UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

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	.161	.092	.029	.155	.088	.028	.142	.082	.026	.131	.075	.024	.120	.070	.022															
2.0	.153	.084	.026	.147	.081	.025	.137	.076	.024	.127	.071	.022	.118	.067	.021															
3.0	.144	.077	.023	.139	.075	.022	.131	.071	.022	.122	.067	.021	.115	.064	.020															
4.0	.136	.071	.021	.132	.069	.020	.125	.066	.020	.118	.063	.019	.111	.060	.018															
5.0	.129	.066	.019	.126	.064	.019	.119	.062	.018	.113	.060	.018	.107	.057	.017															
6.0	.123	.061	.018	.120	.060	.017	.114	.058	.017	.109	.056	.017	.104	.055	.016															
7.0	.117	.058	.016	.114	.057	.016	.109	.055	.016	.104	.054	.016	.100	.052	.015															
8.0	.111	.054	.015	.109	.054	.015	.105	.052	.015	.101	.051	.015	.097	.050	.014															
9.0	.107	.052	.014	.105	.051	.014	.101	.050	.014	.097	.049	.014	.093	.047	.014															
10.0	.102	.049	.014	.100	.048	.014	.097	.047	.013	.093	.046	.013	.090	.045	.013															

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	.170	.157	.146	.145	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.041	.017	.015	.013	
3.0	.140	.113	.092	.120	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.129	.098	.075	.111	.085	.065	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.120	.087	.062	.103	.075	.054	.071	.052	.038	.041	.031	.023	.013	.010	.007	
6.0	.111	.077	.052	.096	.067	.045	.066	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.104	.069	.044	.090	.060	.039	.062	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.098	.063	.038	.085	.054	.033	.059	.038	.024	.034	.023	.014	.011	.007	.005	
9.0	.093	.057	.033	.080	.050	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.088	.053	.029	.076	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-07

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz											
UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm											
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W						TYPE:		WEIGHT:			
SPEC.:						DIM.:		SERIAL No.:			
MFR.: Norming lighting						SUR.: 70mm		Shielding Angle:			
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		18.0	18.8	18.2	19.0	19.1	18.0	18.8	18.2	19.0	19.2
	3H	18.1	18.9	18.4	19.1	19.3	18.1	18.9	18.4	19.1	19.3
	4H	18.1	18.8	18.3	19.0	19.2	18.0	18.8	18.3	19.0	19.2
	6H	18.0	18.7	18.3	18.9	19.2	18.0	18.6	18.3	18.9	19.1
	8H	18.0	18.6	18.3	18.9	19.1	17.9	18.6	18.2	18.8	19.1
	12H	17.9	18.6	18.2	18.8	19.1	17.9	18.5	18.2	18.8	19.0
4H	2H	18.0	18.7	18.3	19.0	19.2	18.0	18.8	18.3	19.0	19.2
	3H	18.2	18.8	18.5	19.1	19.4	18.2	18.8	18.5	19.1	19.3
	4H	18.1	18.7	18.5	19.0	19.3	18.1	18.7	18.4	19.0	19.3
	6H	18.1	18.6	18.4	18.9	19.2	18.0	18.5	18.4	18.8	19.2
	8H	18.0	18.5	18.4	18.8	19.2	18.0	18.4	18.4	18.8	19.2
	12H	18.0	18.4	18.4	18.8	19.2	17.9	18.3	18.3	18.7	19.1
8H	4H	18.0	18.5	18.4	18.8	19.2	18.0	18.4	18.4	18.8	19.2
	6H	17.9	18.3	18.4	18.7	19.1	17.9	18.3	18.3	18.7	19.1
	8H	17.9	18.2	18.3	18.7	19.1	17.8	18.2	18.3	18.6	19.0
	12H	17.8	18.1	18.3	18.6	19.1	17.8	18.1	18.3	18.5	19.0
12H	4H	18.0	18.4	18.4	18.8	19.2	17.9	18.4	18.3	18.7	19.1
	6H	17.9	18.2	18.3	18.6	19.1	17.8	18.2	18.3	18.6	19.0
	8H	17.8	18.1	18.3	18.6	19.0	17.8	18.1	18.3	18.5	19.0
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 1.6 / - 2.5					+ 1.6 / - 2.5				
1.5H		+ 2.6 / - 1.6					+ 2.6 / - 1.6				
2.0H		+ 2.4 / - 1.9					+ 2.3 / - 2.0				

CIE Pub.117, 1624 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.7$)
Area: 0.0038 m²

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2024-08-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

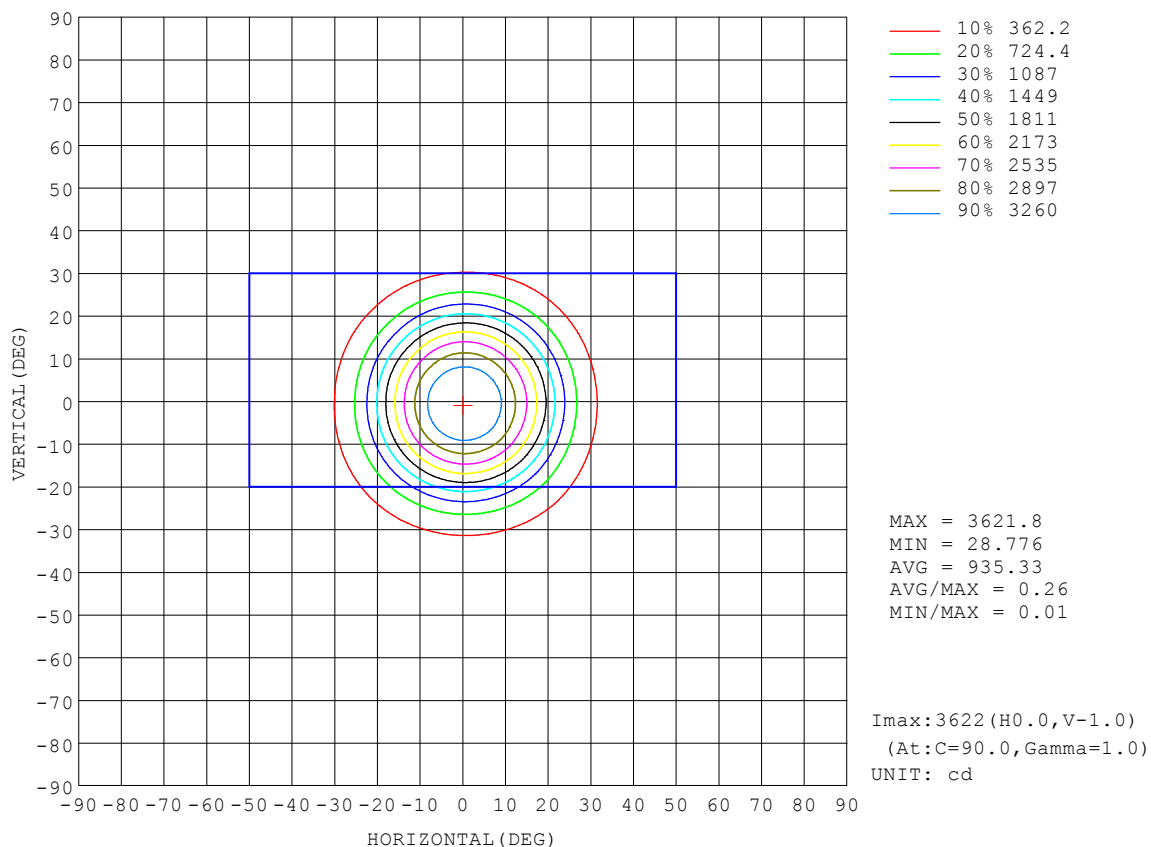
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	95	89	85	94	89	85	93	88	85	81
1.00	99	94	90	98	93	90	97	93	89	85
1.25	103	98	95	102	97	94	100	96	93	89
1.50	106	101	98	105	100	97	102	99	96	92
2.00	109	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	103	106	103	101	95
3.00	112	108	106	110	107	105	107	104	102	96
4.00	114	111	109	112	109	108	108	106	105	98
5.00	115	113	111	113	111	109	109	108	106	99
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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Operators: DAMIN
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Humidity: 65.0%
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Remarks:

ISOCANDELA DIAGRAM

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

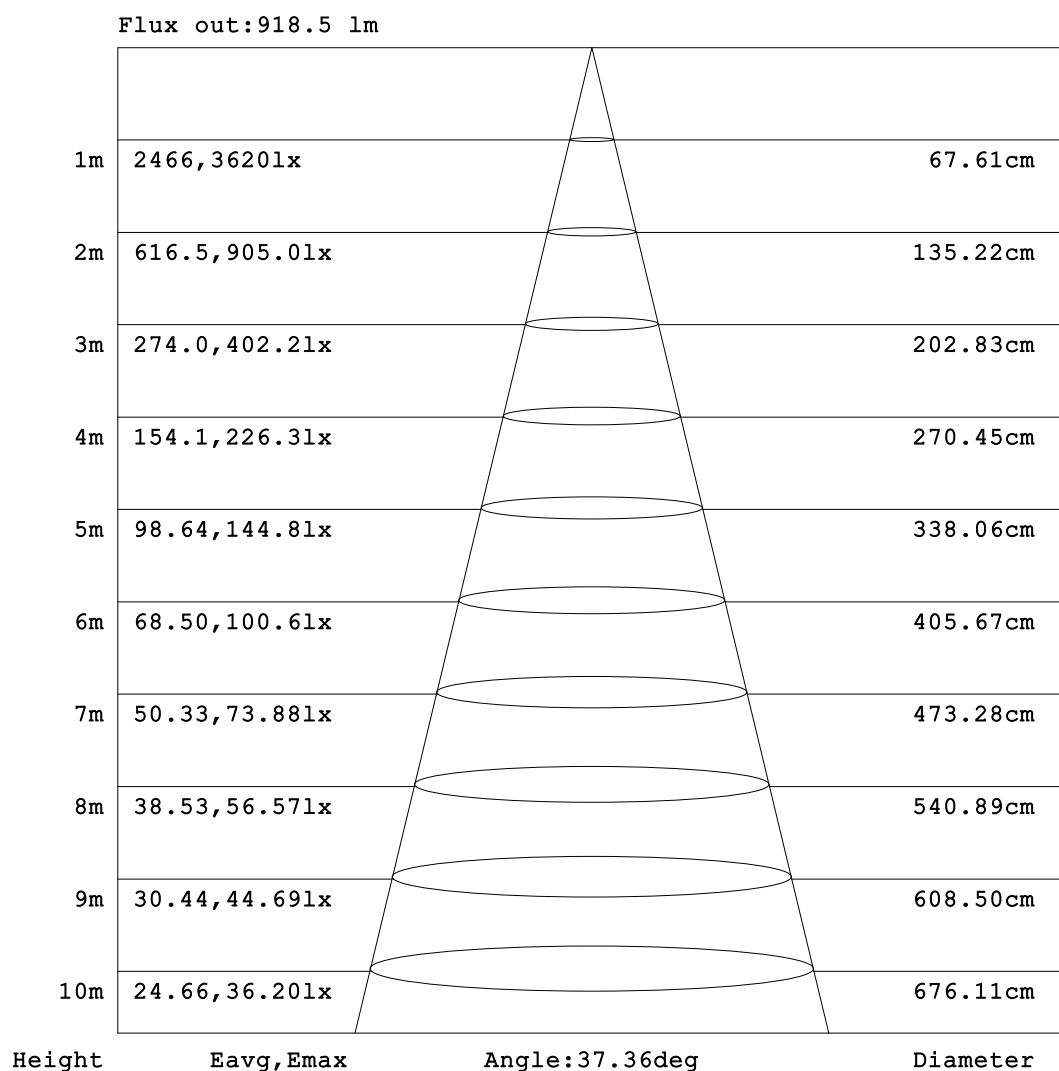


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AAI Figure

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz		
UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
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SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



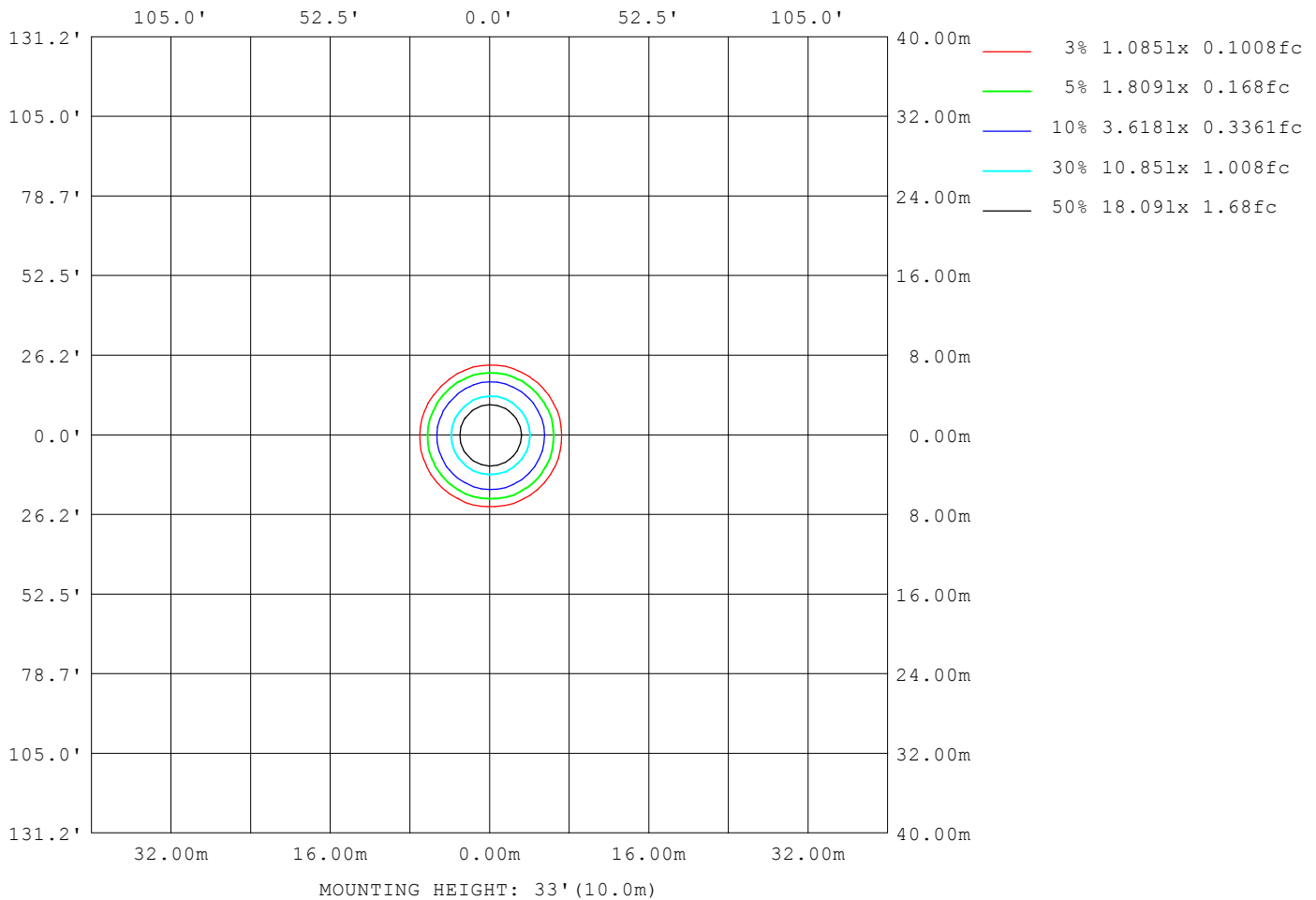
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:



C Range: 0 - 360DEG
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Test Speed: HIGH
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LED Avg.L Report

Test:U:240.4V I:0.0632A P:14.8W PF:0.9724 Freq:49.99Hz UTHDi:0.18% ITHDi:7.67% KDisp:0.9791 Lamp Flux:1624.04x1 lm		
NAME: TR11-20-XX-01+白色防眩环 4000K RA90 36D 15W	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: Norming lighting	SUR.: 70mm	Shielding Angle:

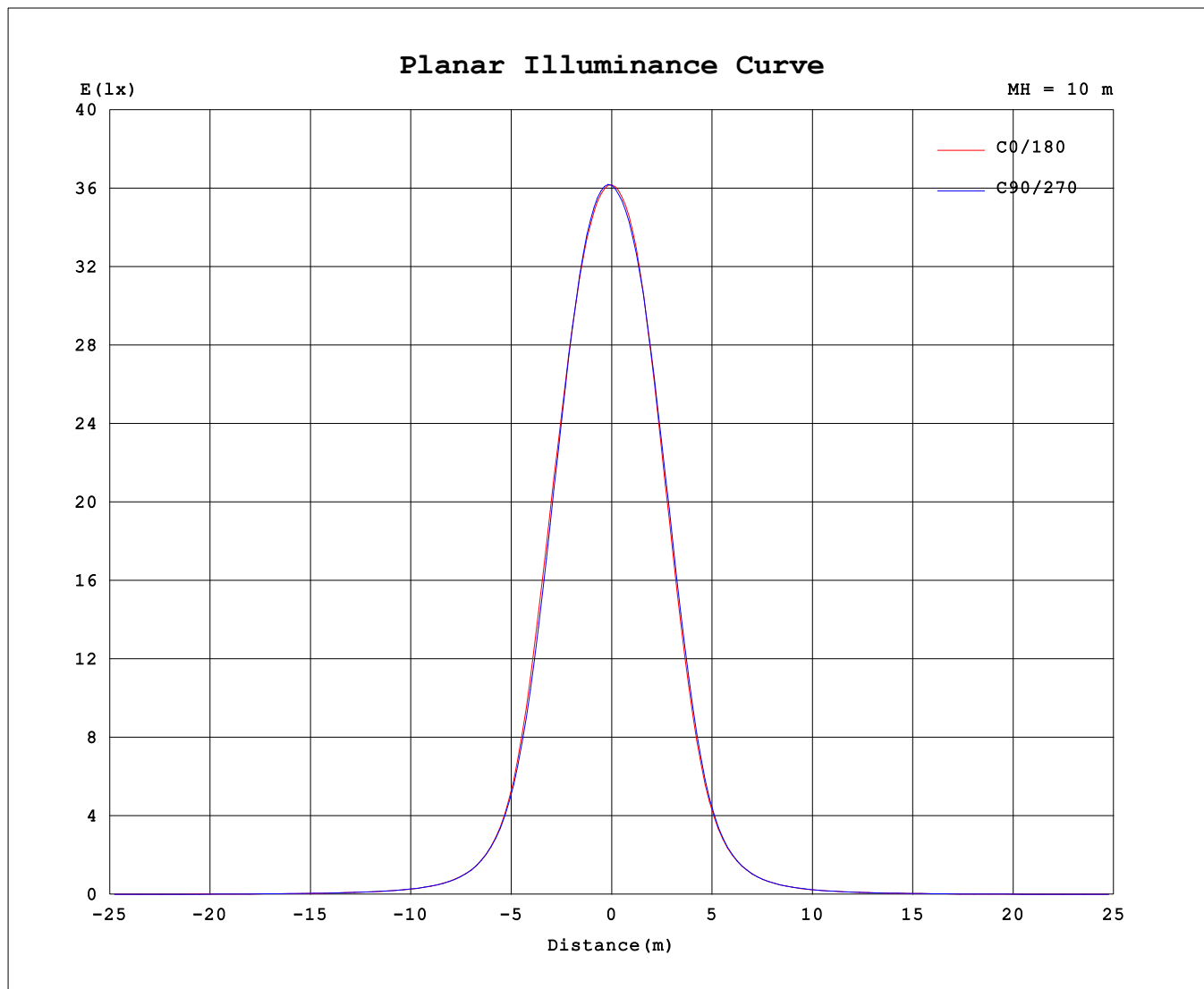
AvgL	cd/m2
L_0~180 (65) av	8946
L_0~180 (75) av	2159
L_0~180 (85) av	763
L_90~270 (65) av	9439
L_90~270 (75) av	2130
L_90~270 (85) av	454
L_45 (65) av	9095
L_45 (75) av	2144
L_45 (85) av	555

Standard: GB/T 29293-2012

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Remarks:

Planar Illuminance Curve



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```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
Humidity:65.0%
Test Distance:3.090m [K=1.0000]
Remarks:

```

Photometric Data Table [cd]

G/C	0.0	45.0	90.0	135.0	180.0	225.0	270.0	315.0
0.0	3616	3616	3616	3616	3616	3616	3616	3616
3.0	3585	3598	3603	3591	3568	3550	3550	3565
6.0	3472	3498	3496	3478	3437	3410	3409	3435
9.0	3264	3295	3277	3234	3174	3146	3173	3211
12.0	2944	2975	2933	2867	2785	2765	2811	2863
15.0	2540	2561	2490	2402	2315	2307	2373	2439
18.0	2071	2064	1989	1895	1810	1794	1872	1960
21.0	1558	1539	1470	1386	1302	1278	1361	1449
24.0	1073	1067	1018	949.1	871.1	851.8	910.7	985.0
27.0	693.6	707.5	672.0	623.2	562.7	541.5	580.3	634.5
30.0	447.5	463.9	440.7	408.0	365.6	351.1	372.3	407.6
33.0	294.6	307.4	292.4	270.7	244.4	234.0	246.5	267.9
36.0	200.7	211.7	199.1	186.0	169.2	161.7	170.3	183.4
39.0	141.3	148.1	140.7	132.1	121.3	115.9	121.9	130.3
42.0	103.0	108.2	103.2	97.09	89.61	86.59	90.32	96.34
45.0	77.96	81.70	78.93	73.44	68.19	66.13	69.07	72.53
48.0	60.01	63.23	61.62	57.78	54.04	53.03	54.82	56.05
51.0	47.50	49.97	49.35	45.82	42.93	42.83	44.85	45.21
54.0	38.29	40.33	39.36	35.99	33.71	33.52	35.76	36.33
57.0	30.70	32.37	31.71	29.05	27.33	27.03	28.44	28.83
60.0	24.93	26.24	25.51	22.80	21.59	21.90	23.15	23.43
63.0	19.59	20.12	19.12	16.89	15.95	16.51	17.90	18.60
66.0	14.56	14.60	13.72	11.69	11.01	11.87	13.31	13.90
69.0	10.07	9.706	8.977	7.782	7.317	7.951	8.981	9.782
72.0	6.507	5.768	4.169	2.827	2.701	3.365	4.677	6.335
75.0	2.507	2.221	1.939	1.763	1.740	1.929	2.251	2.522
78.0	1.692	1.507	1.343	1.188	1.194	1.374	1.653	1.766
81.0	1.227	1.058	0.8898	0.7438	0.7280	0.8611	1.130	1.241
84.0	0.6716	0.4626	0.2639	0.1260	0.1416	0.1533	0.3658	0.6283
87.0	0.1353	0.0907	0.0916	0.0507	0.0596	0.0576	0.0991	0.1077
90.0	0.0560	0.0289	0.0498	0.0334	0.0334	0.0299	0.0382	0.0376

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2024-08-07

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.453
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks: