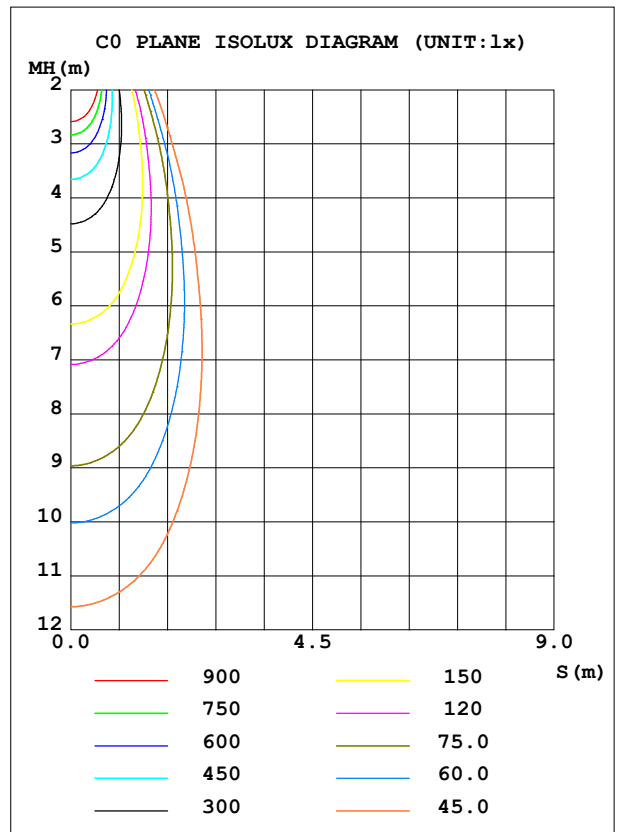
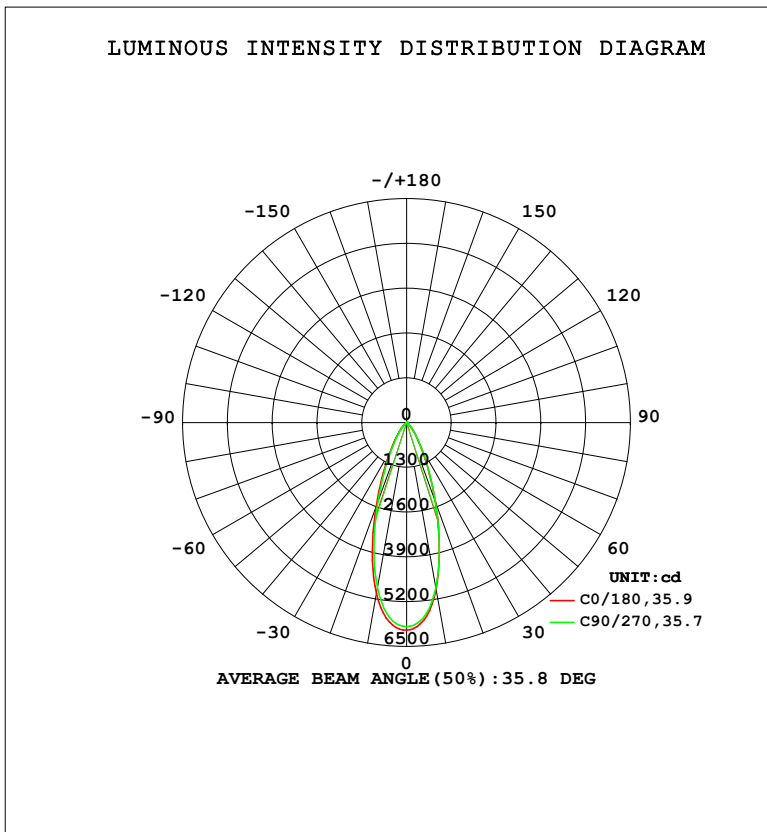


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	6024	S/MH (C0/180)	0.60
NOMINAL POWER (W)	45	LOR (%)	100.0	S/MH (C90/270)	0.58
RATED VOLTAGE (V)	120.0	TOTAL FLUX (lm)	2732.2	η UP, DN (C0-180)	0.0,49.9
NOMINAL FLUX (lm)	2732.17	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,50.1
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	0.60



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

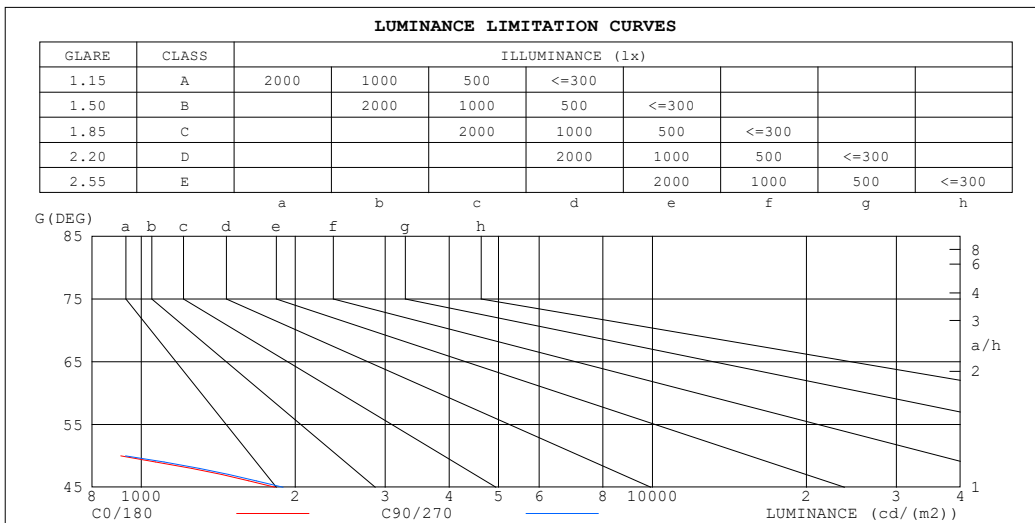
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	4922	4825	4885	4902	5037	5028	4871	4834	0- 10	518.5	518.5	19,19
20	2446	2404	2470	2487	2605	2613	2422	2383	10- 20	1012	1530	56,56
30	860.5	862.6	883.2	886.9	944.5	940.3	847.3	839.8	20- 30	705.9	2236	81.8,81.8
40	279.4	279.6	290.3	284.7	302.8	305.3	274.3	266.3	30- 40	326.4	2562	93.8,93.8
50	65.07	67.01	66.51	64.84	70.31	64.87	59.66	60.85	40- 50	118.1	2680	98.1,98.1
60	19.70	19.80	19.49	19.23	19.68	18.79	18.40	18.69	50- 60	30.35	2711	99.2,99.2
70	10.90	11.31	11.30	10.74	10.59	10.40	10.48	10.54	60- 70	14.29	2725	99.7,99.7
80	1.525	1.804	2.011	1.898	1.826	1.779	1.834	1.699	70- 80	6.445	2732	100,100
90	0.0810	0.0776	0.1091	0.0709	0.0725	0.0680	0.1154	0.1065	80- 90	0.6589	2732	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		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	47	57
80	79	104
75	180	247
70	287	297
65	311	311
60	355	351
55	502	500
50	911	931
45	1826	1893

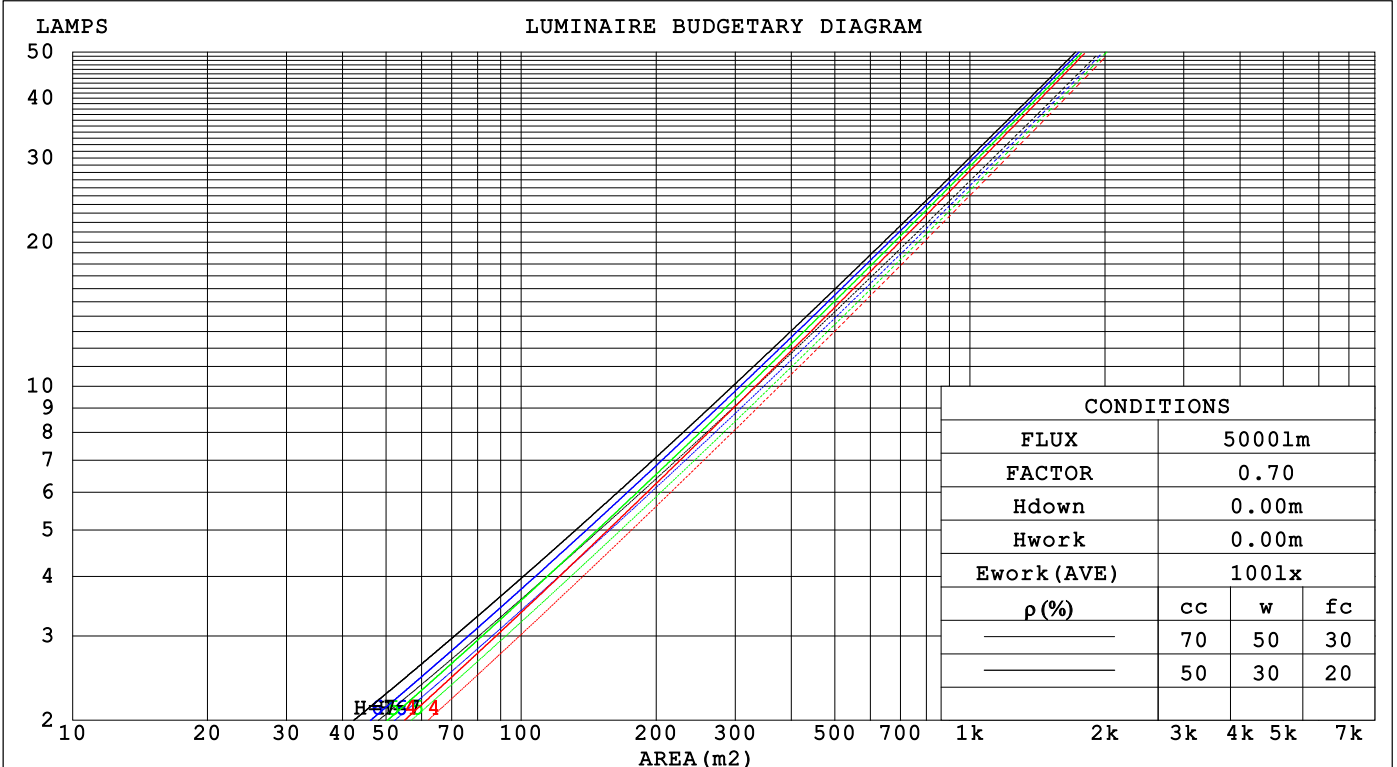
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

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	1.12	1.09	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.02	1.00	.99	.98	.97	.96	.95
2.0	1.05	1.01	.98	1.03	.90	.97	.90	.97	.95	.97	.95	.93	.94	.92	.91	.89
3.0	.99	.94	.91	.97	.93	.90	.95	.91	.88	.92	.90	.87	.90	.88	.86	.84
4.0	.93	.88	.85	.92	.88	.84	.90	.86	.83	.88	.85	.82	.86	.83	.81	.80
5.0	.88	.83	.79	.87	.83	.79	.86	.82	.78	.84	.80	.78	.83	.79	.77	.76
6.0	.84	.79	.75	.83	.78	.75	.82	.77	.74	.80	.77	.74	.79	.76	.73	.72
7.0	.80	.75	.71	.79	.74	.71	.78	.74	.70	.77	.73	.70	.76	.72	.70	.68
8.0	.76	.71	.67	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.66	.65
9.0	.73	.68	.64	.72	.67	.64	.72	.67	.64	.71	.67	.64	.70	.66	.63	.62
10.0	.70	.65	.61	.69	.65	.61	.69	.64	.61	.68	.64	.61	.67	.63	.61	.60



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.163	.093	.029	.157	.089	.028	.144	.083	.026	.133	.077	.025	.122	.071	.023	
2.0	.155	.085	.026	.149	.082	.025	.139	.077	.024	.129	.072	.023	.120	.068	.021	
3.0	.146	.078	.023	.142	.076	.023	.133	.072	.022	.125	.068	.021	.117	.065	.020	
4.0	.139	.072	.021	.135	.070	.021	.127	.067	.020	.120	.064	.019	.113	.062	.019	
5.0	.132	.067	.019	.128	.066	.019	.122	.063	.019	.115	.061	.018	.110	.059	.018	
6.0	.125	.063	.018	.122	.062	.018	.117	.060	.017	.111	.058	.017	.106	.056	.017	
7.0	.119	.059	.017	.117	.058	.017	.112	.056	.016	.107	.055	.016	.103	.053	.016	
8.0	.114	.056	.016	.112	.055	.016	.107	.054	.015	.103	.052	.015	.099	.051	.015	
9.0	.109	.053	.015	.107	.052	.015	.103	.051	.014	.099	.050	.014	.096	.049	.014	
10.0	.105	.050	.014	.103	.050	.014	.099	.049	.014	.096	.048	.014	.093	.047	.013	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	.170	.157	.146	.146	.135	.126	.100	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.154	.133	.115	.132	.114	.099	.090	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.092	.121	.098	.080	.083	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.130	.099	.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	.112	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.012	.009	.006	
7.0	.105	.069	.044	.091	.060	.038	.063	.042	.027	.036	.025	.016	.012	.008	.005	
8.0	.099	.063	.038	.086	.055	.033	.059	.038	.023	.034	.023	.014	.011	.007	.005	
9.0	.094	.058	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.089	.053	.029	.077	.046	.025	.054	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	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	4.8	5.7	5.1	5.8	6.0	5.0	5.8	5.2	6.0	6.1
3H	4.8	5.6	5.0	5.8	6.0	4.9	5.7	5.2	5.9	6.1
4H	4.8	5.5	5.0	5.7	5.9	4.9	5.6	5.2	5.8	6.1
6H	4.7	5.4	5.0	5.6	5.8	4.8	5.5	5.1	5.7	6.0
8H	4.6	5.3	4.9	5.5	5.8	4.8	5.4	5.1	5.7	5.9
12H	4.6	5.2	4.9	5.5	5.8	4.7	5.4	5.0	5.6	5.9
4H 2H	4.7	5.4	4.9	5.6	5.8	4.8	5.5	5.0	5.7	5.9
3H	4.7	5.3	5.0	5.6	5.8	4.8	5.4	5.1	5.7	5.9
4H	4.6	5.2	5.0	5.5	5.8	4.8	5.3	5.1	5.6	5.9
6H	4.5	5.1	4.9	5.4	5.7	4.7	5.2	5.1	5.5	5.9
8H	4.5	5.0	4.9	5.3	5.7	4.7	5.1	5.0	5.5	5.8
12H	4.4	4.9	4.9	5.2	5.6	4.6	5.0	5.0	5.4	5.8
8H 4H	4.5	5.0	4.9	5.3	5.7	4.7	5.1	5.0	5.5	5.8
6H	4.4	4.8	4.9	5.2	5.6	4.6	5.0	5.0	5.4	5.8
8H	4.4	4.7	4.8	5.1	5.6	4.5	4.9	5.0	5.3	5.7
12H	4.3	4.6	4.8	5.1	5.5	4.5	4.8	4.9	5.2	5.7
12H 4H	4.5	4.9	4.9	5.3	5.7	4.6	5.0	5.0	5.4	5.8
6H	4.4	4.7	4.8	5.1	5.6	4.5	4.9	5.0	5.3	5.7
8H	4.3	4.6	4.8	5.1	5.5	4.5	4.8	4.9	5.2	5.7

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 2.7 / - 6.2	+ 2.7 / - 6.0
1.5H	+ 4.4 / - 5.4	+ 4.4 / - 5.4
2.0H	+ 5.1 / - 3.7	+ 5.1 / - 3.5

CIE Pub.117, 2732 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.5)
 Area: 0.111111 m2

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

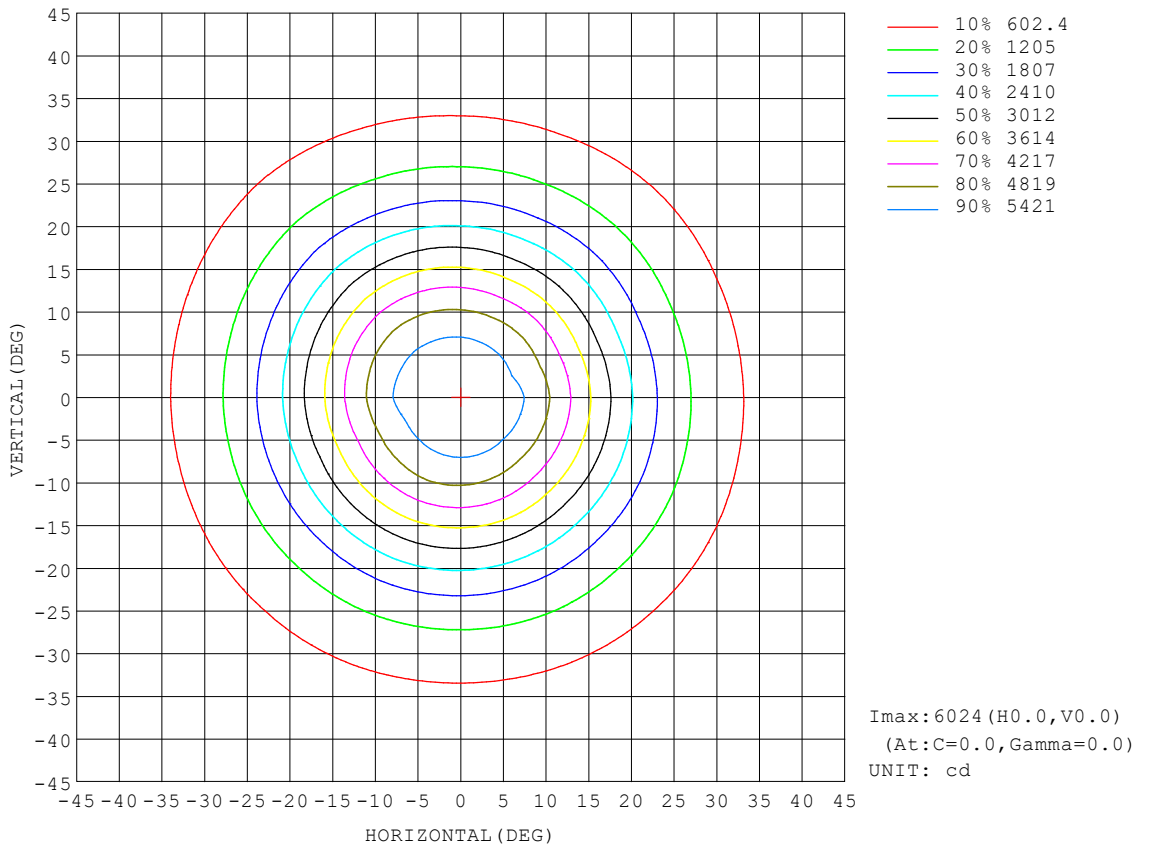
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	81	78	87	81	78	86	81	77	74
0.80	95	89	86	94	89	85	93	88	85	81
1.00	99	94	90	99	94	90	97	93	90	86
1.25	103	98	95	102	98	95	100	97	94	90
1.50	106	101	98	105	101	98	103	99	97	92
2.00	109	105	101	107	104	101	105	102	99	94
2.50	110	107	104	109	105	103	106	103	101	95
3.00	112	109	106	110	107	105	107	104	103	96
4.00	114	111	109	112	110	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			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

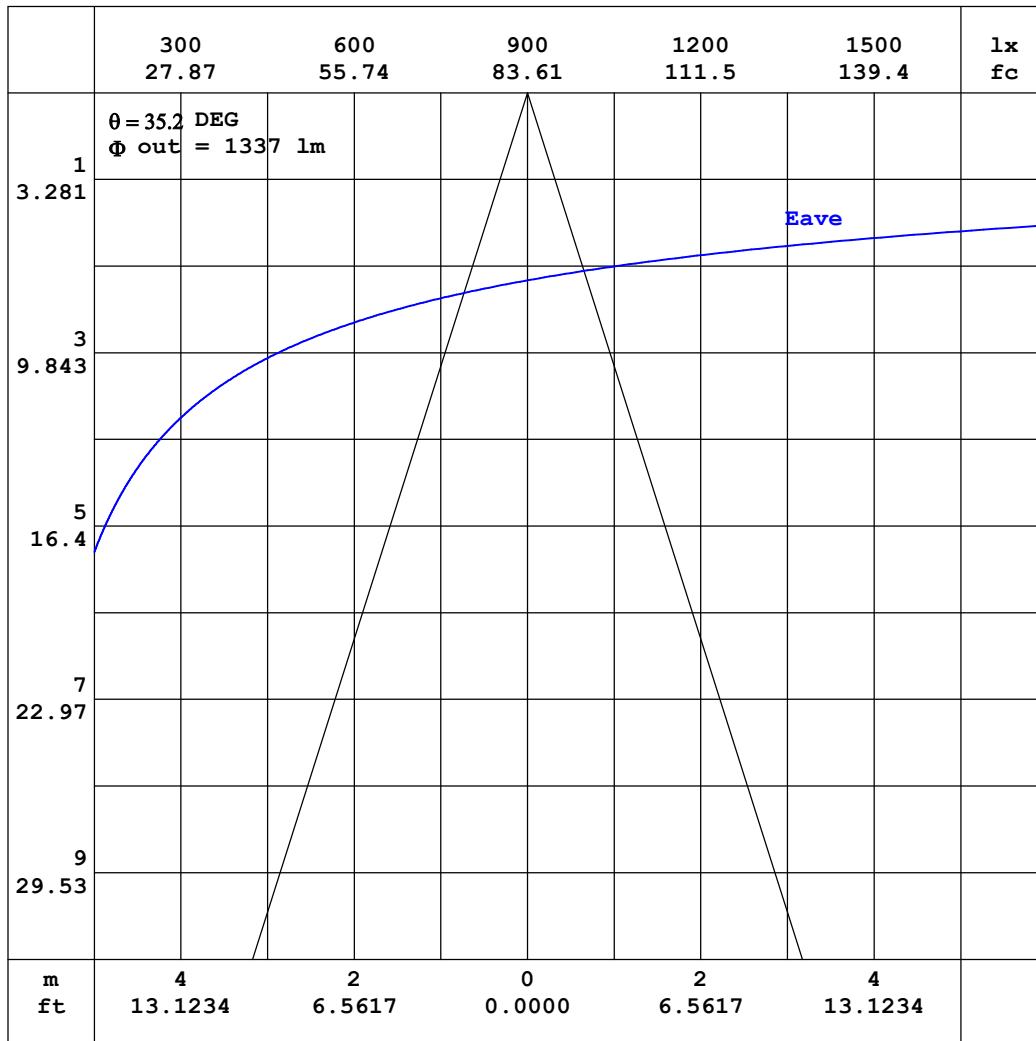


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

AAI CURVES

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



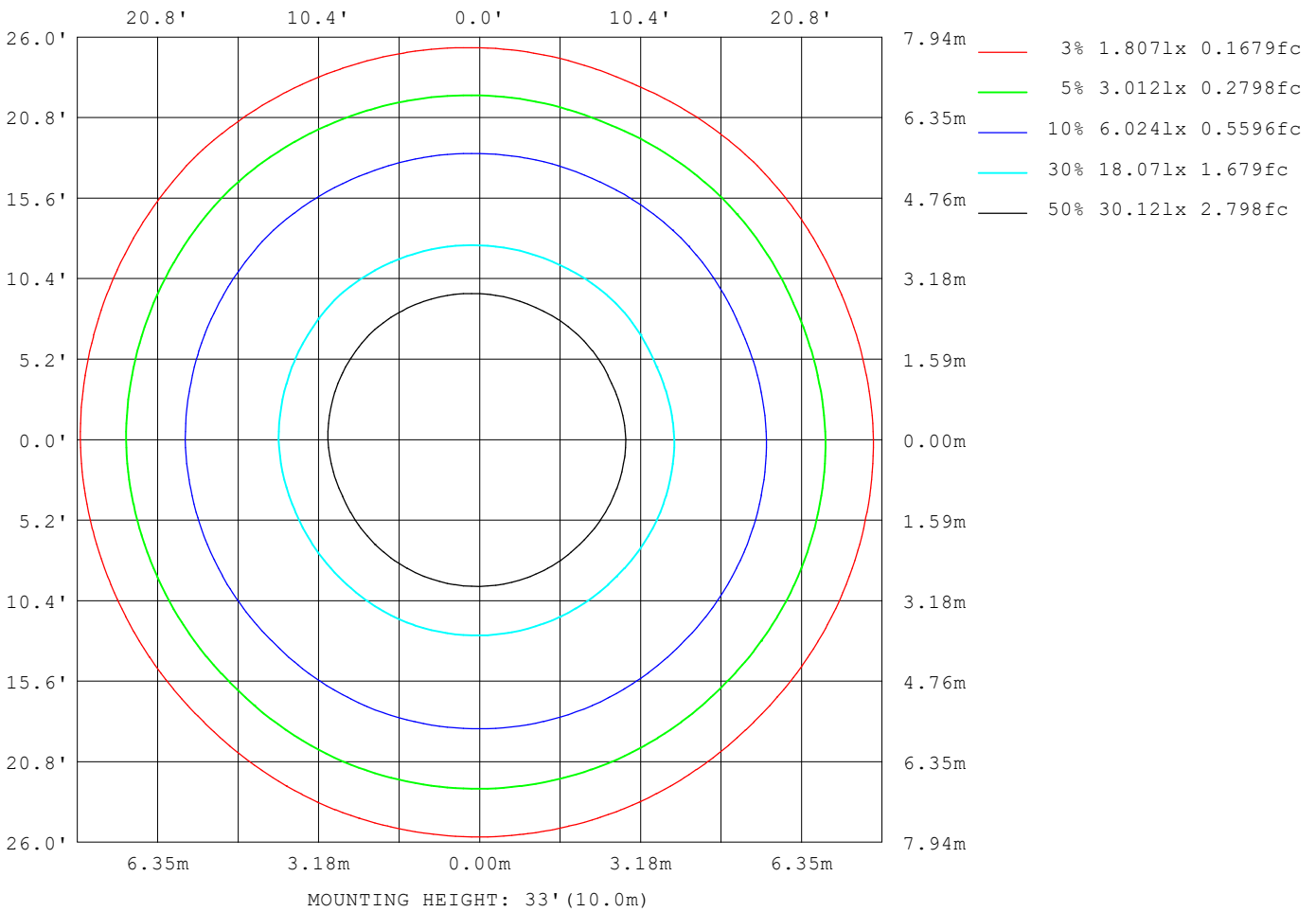
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3°C
 Operators:
 Test Date: 2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:119.67V I:0.3449A P:40.707W PF:0.9861 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2732.17x1 lm		
NAME: ASD-TCS-3D45AC-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING CORP	SUR.:	Shielding Angle:

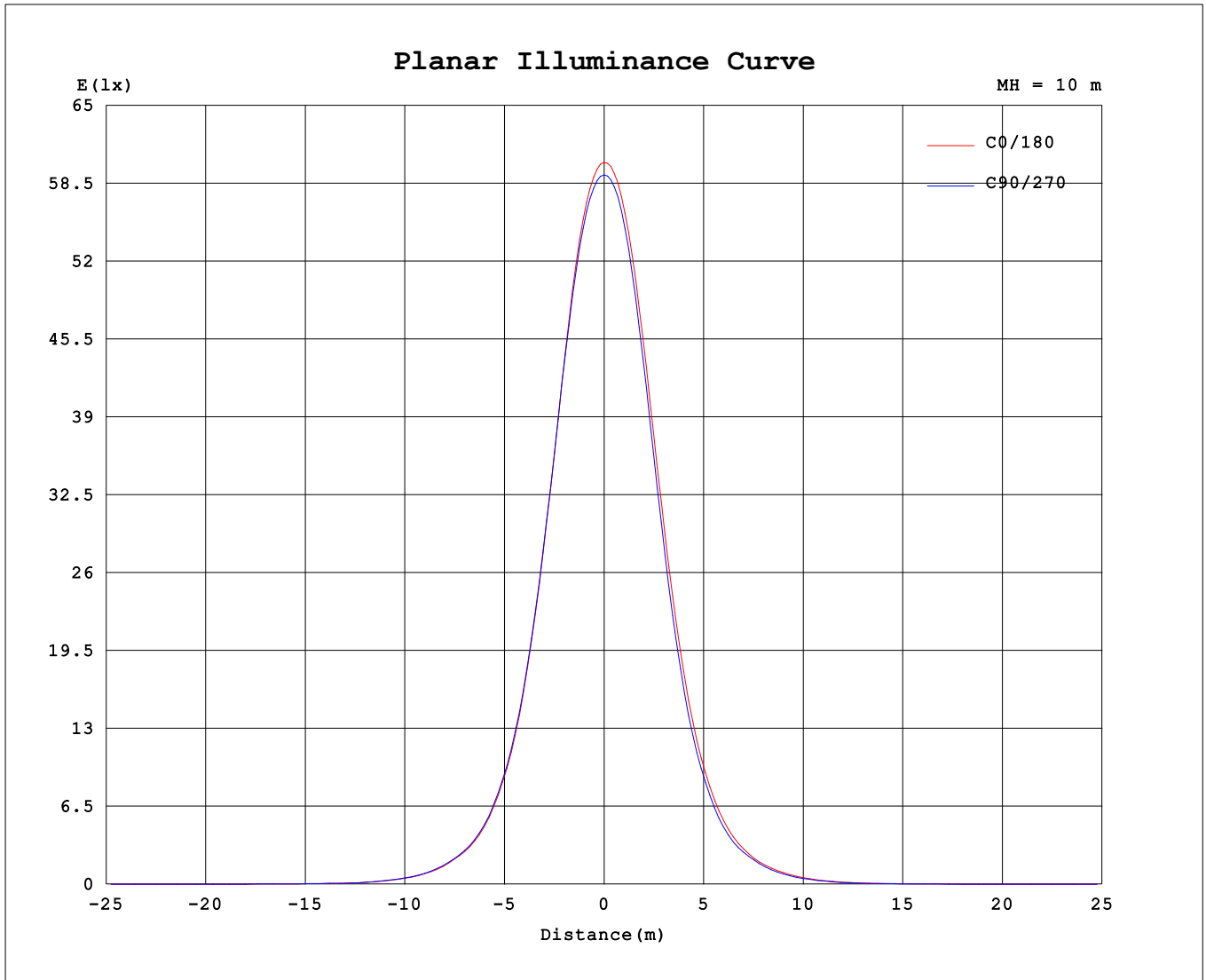
AvgL	cd/m2
L_0~180 (65) av	307
L_0~180 (75) av	191
L_0~180 (85) av	43
L_90~270 (65) av	301
L_90~270 (75) av	227
L_90~270 (85) av	53
L_45 (65) av	302
L_45 (75) av	215
L_45 (85) av	45

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:
 Test Date:2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.080m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2023-07-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.080m [K=1.0000]
 Remarks:

