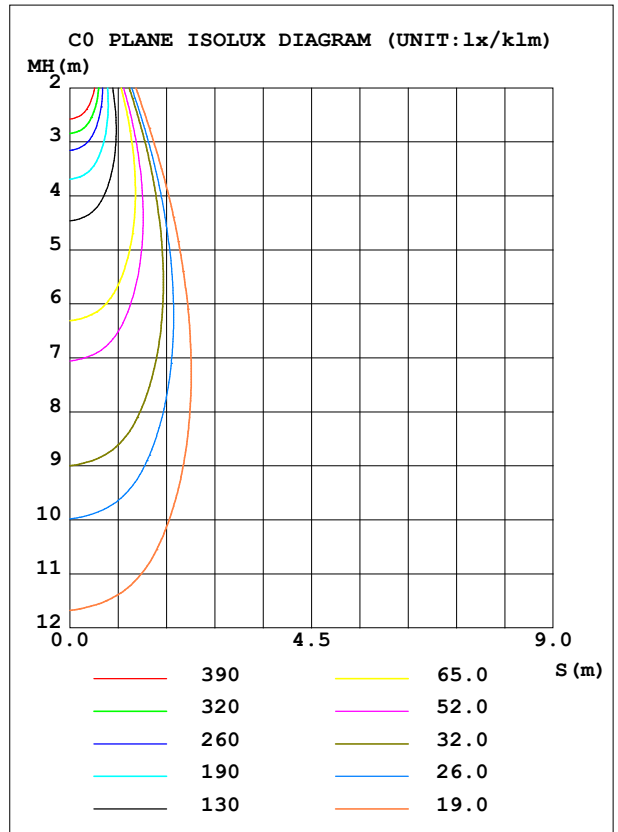
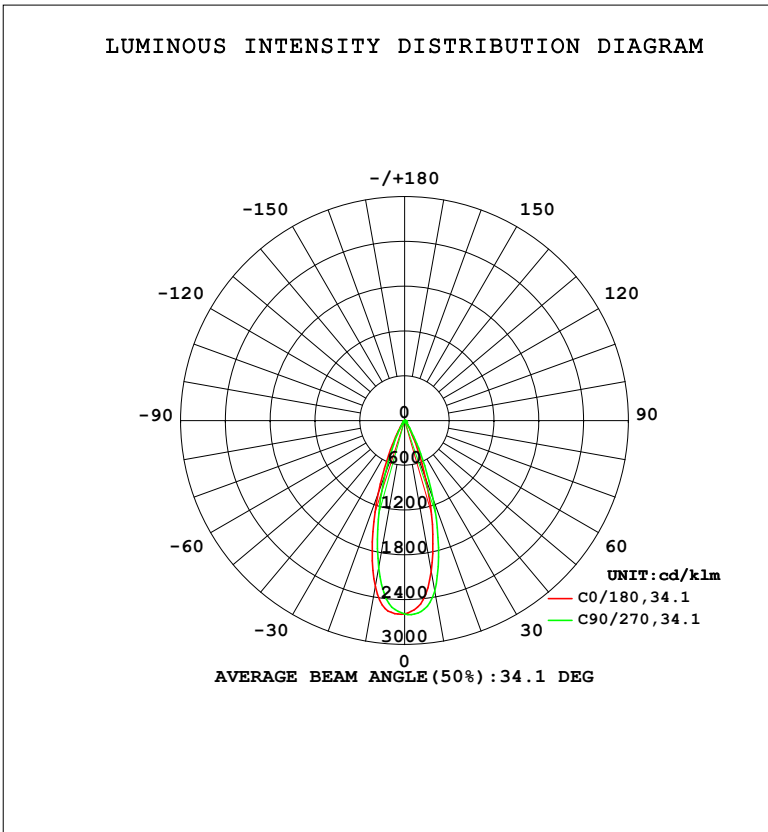


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 90.25 lm/W
MODEL		I <sub>max</sub> (cd/klm)	2611	S/MH (C0/180)		0.57
NOMINAL POWER (W)	15	LOR (%)	100.0	S/MH (C90/270)		0.51
RATED VOLTAGE (V)	120.0	TOTAL FLUX (lm/klm)	1000.0	η UP, DN (C0-180)		0.0, 53.8
NOMINAL FLUX (lm)	1191.38	CIE CLASS	DIRECT	η UP, DN (C180-360)		0.0, 46.2
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM		0.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX		0.55



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 24.3 °C  
 Operators:  
 Test Date: 2023-08-04

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:

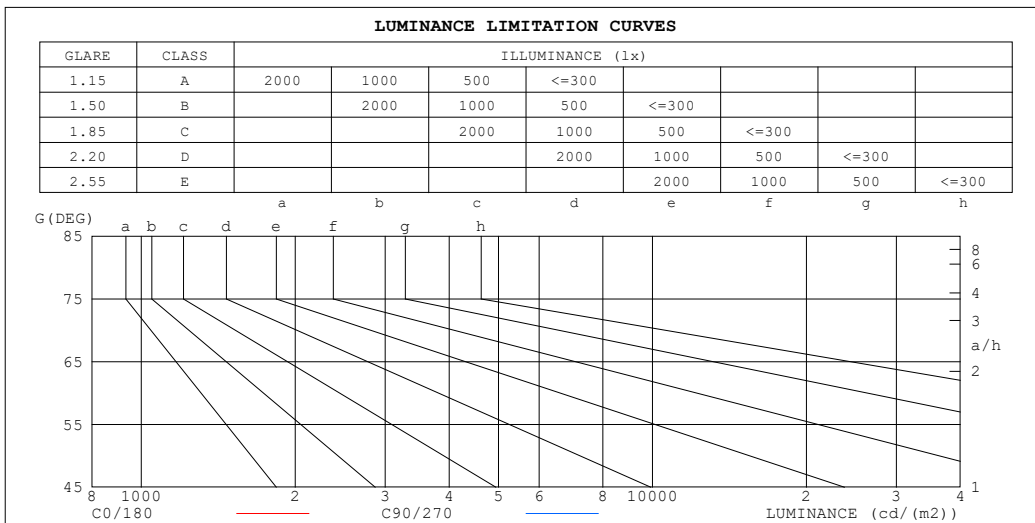
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	2054	2215	2320	2353	2263	2108	2001	1989	0- 10	229.0	229.0	22.9,22.9
20	836.3	1001	1118	1114	1031	876.9	765.7	746.5	10- 20	423.1	652.2	65.2,65.2
30	158.0	210.8	247.3	238.4	208.5	169.8	141.5	136.7	20- 30	217.7	869.9	87,87
40	44.09	50.03	54.11	53.02	48.45	43.75	42.71	42.16	30- 40	58.22	928.1	92.8,92.8
50	28.51	29.33	29.46	28.32	27.47	27.36	28.35	29.73	40- 50	27.13	955.2	95.5,95.5
60	20.46	21.80	21.69	21.72	20.66	20.54	19.92	20.34	50- 60	22.27	977.5	97.8,97.8
70	9.962	12.89	11.25	13.39	10.48	12.04	9.485	11.49	60- 70	16.14	993.6	99.4,99.4
80	0.6445	1.305	1.307	1.856	0.8997	1.171	0.6595	1.045	70- 80	5.915	999.6	100,100
90	0.0552	0.0487	0.0704	0.0506	0.0469	0.0369	0.0453	0.0379	80- 90	0.4418	1000	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/klm									UNIT:lm/klm		

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3 °C  
 Operators:  
 Test Date:2023-08-04

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

<b>Test:U:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz</b> <b>UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm</b>		
<b>NAME: ASD-TCS-1D15AC-WH</b>	<b>TYPE:</b>	<b>WEIGHT:</b>
<b>SPEC.: 3500K 90</b>	<b>DIM.:</b>	<b>SERIAL No.:</b>
<b>MFR.: ASD LIGHTING GORP</b>	<b>SUR.:</b>	<b>Shielding Angle:</b>



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	46	57
80	40	81
75	180	219
70	312	353
65	392	425
60	439	465
55	466	485
50	476	491
45	500	549

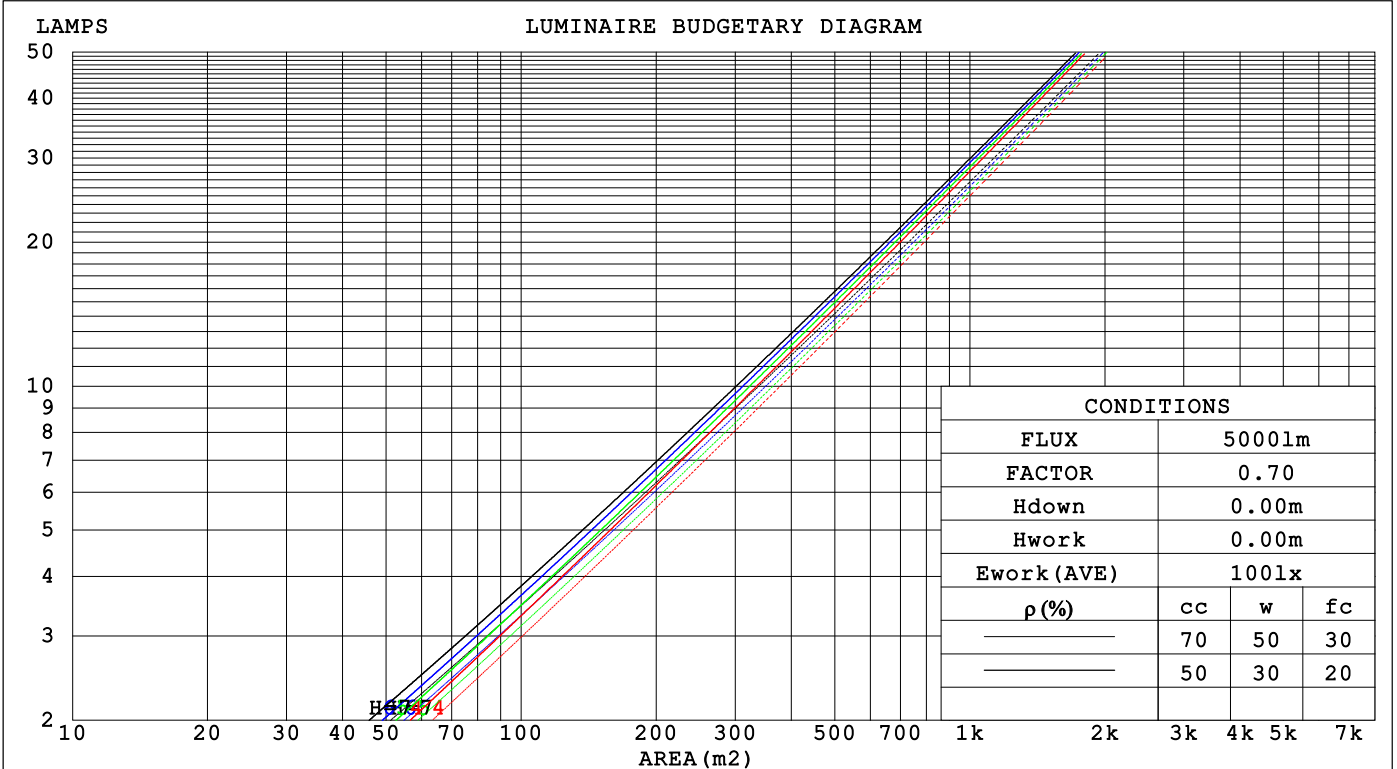
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3°C  
 Operators:  
 Test Date:2023-08-04

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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	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	1.06	1.05	1.04	1.02	1.02	1.01	.99	.98	.97	.97	.95
2.0	1.05	1.01	.98	1.03	1.00	.97	1.00	.98	.95	.97	.95	.93	.95	.93	.91	.90
3.0	.99	.95	.92	.98	.94	.91	.95	.92	.89	.93	.90	.88	.91	.89	.87	.85
4.0	.94	.90	.86	.93	.89	.85	.91	.87	.84	.89	.86	.83	.87	.85	.83	.81
5.0	.90	.85	.81	.89	.84	.81	.87	.83	.80	.86	.82	.79	.84	.81	.79	.77
6.0	.86	.81	.77	.85	.80	.77	.84	.79	.76	.82	.79	.76	.81	.78	.75	.74
7.0	.82	.77	.74	.82	.77	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
8.0	.79	.74	.70	.78	.74	.70	.77	.73	.70	.76	.73	.70	.76	.72	.70	.68
9.0	.76	.71	.68	.75	.71	.68	.75	.70	.67	.74	.70	.67	.73	.69	.67	.66
10.0	.73	.68	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.71	.67	.65	.63



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3°C  
 Operators:  
 Test Date:2023-08-04

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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:

$\rho_{CC}$	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	.161	.092	.029	.154	.088	.028	.142	.081	.026	.130	.075	.024	.120	.069	.022	
2.0	.152	.083	.025	.146	.080	.025	.136	.075	.023	.126	.071	.022	.117	.066	.021	
3.0	.142	.076	.023	.137	.074	.022	.129	.070	.021	.121	.066	.020	.113	.063	.019	
4.0	.134	.069	.020	.130	.068	.020	.122	.065	.019	.115	.062	.019	.109	.059	.018	
5.0	.126	.064	.019	.123	.063	.018	.116	.060	.018	.110	.058	.017	.104	.056	.017	
6.0	.119	.060	.017	.116	.059	.017	.111	.057	.016	.105	.055	.016	.100	.053	.016	
7.0	.113	.056	.016	.111	.055	.016	.106	.053	.015	.101	.052	.015	.097	.050	.015	
8.0	.108	.053	.015	.106	.052	.015	.101	.051	.014	.097	.049	.014	.093	.048	.014	
9.0	.103	.050	.014	.101	.049	.014	.097	.048	.014	.093	.047	.013	.090	.046	.013	
10.0	.098	.047	.013	.097	.047	.013	.093	.046	.013	.090	.045	.013	.087	.044	.013	

$\rho_{CC}$	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	.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	.082	.068	.056	.048	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.076	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.119	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.032	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.016	.012	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.091	.057	.034	.079	.049	.029	.055	.035	.021	.032	.020	.012	.010	.007	.004	
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3°C  
 Operators:  
 Test Date:2023-08-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	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	3.5	4.3	3.7	4.5	4.6	4.2	5.0	4.4	5.1	5.3
3H	4.5	5.3	4.8	5.4	5.6	5.1	5.9	5.4	6.1	6.3
4H	4.7	5.4	4.9	5.6	5.8	5.3	6.0	5.6	6.3	6.5
6H	4.6	5.3	4.9	5.5	5.8	5.3	6.0	5.6	6.2	6.5
8H	4.6	5.2	4.9	5.5	5.7	5.3	5.9	5.6	6.2	6.4
12H	4.5	5.2	4.9	5.4	5.7	5.2	5.9	5.6	6.1	6.4
4H 2H	4.1	4.8	4.4	5.0	5.2	4.6	5.3	4.9	5.5	5.8
3H	5.2	5.9	5.6	6.1	6.4	5.8	6.4	6.1	6.6	6.9
4H	5.4	6.0	5.8	6.3	6.6	6.0	6.6	6.3	6.9	7.2
6H	5.4	5.9	5.7	6.2	6.5	6.0	6.5	6.4	6.8	7.2
8H	5.3	5.8	5.7	6.1	6.5	6.0	6.4	6.4	6.8	7.1
12H	5.3	5.7	5.7	6.1	6.5	5.9	6.3	6.3	6.7	7.1
8H 4H	5.5	5.9	5.9	6.3	6.7	6.0	6.5	6.4	6.8	7.2
6H	5.4	5.8	5.9	6.2	6.6	6.0	6.4	6.5	6.8	7.2
8H	5.4	5.7	5.8	6.1	6.6	6.0	6.3	6.4	6.8	7.2
12H	5.3	5.6	5.8	6.1	6.5	6.0	6.2	6.4	6.7	7.2
12H 4H	5.4	5.9	5.8	6.2	6.6	6.0	6.4	6.4	6.8	7.2
6H	5.4	5.7	5.8	6.1	6.6	6.0	6.3	6.4	6.7	7.2
8H	5.3	5.6	5.8	6.1	6.5	5.9	6.2	6.4	6.7	7.1

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 0.3 / - 0.5	+ 0.5 / - 0.6
1.5H	+ 0.4 / - 0.4	+ 1.1 / - 0.5
2.0H	+ 0.3 / - 0.4	+ 0.2 / - 0.4

CIE Pub.117, 1191 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.6)  
 Area: 0.111111 m2

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
Temperature:24.3°C	Humidity:65.0%
Operators:	Test Distance:3.080m [K=1.0000]
Test Date:2023-08-04	Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:

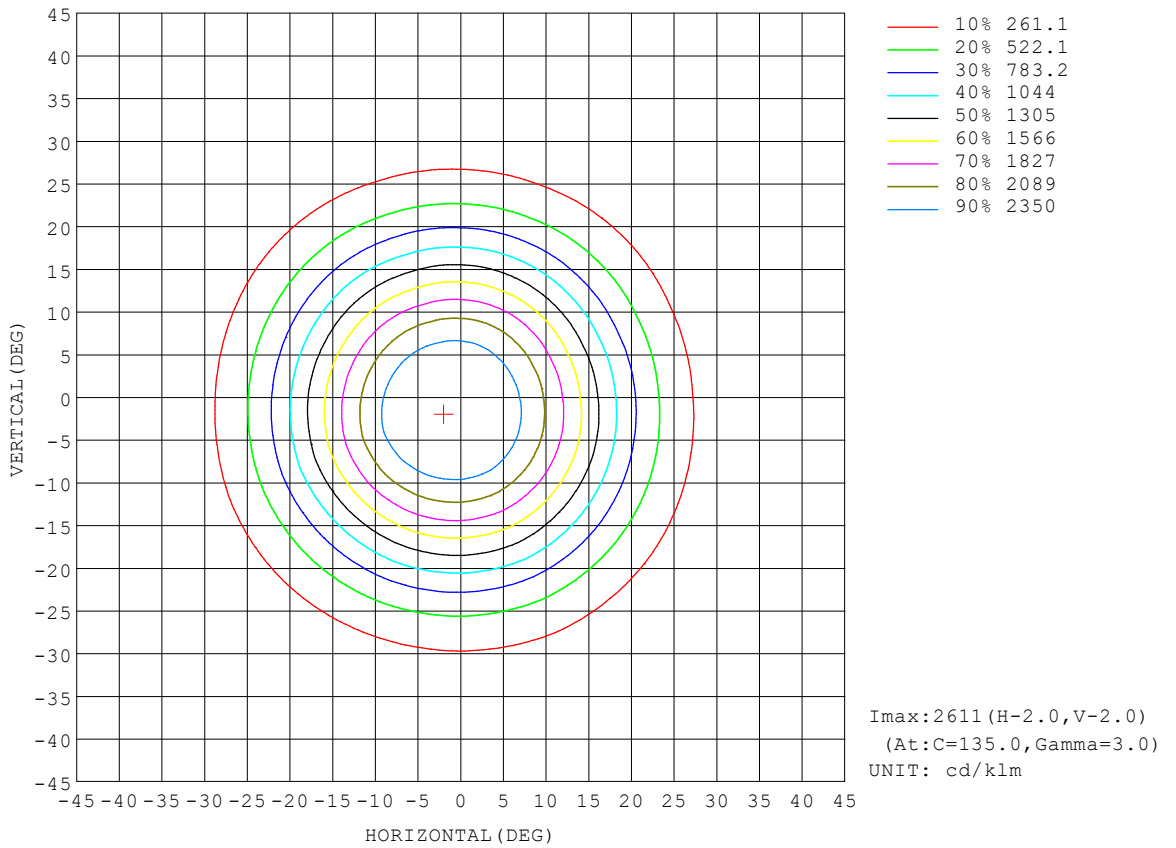
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	87	81	77	87	81	77	86	80	77	73
0.80	94	89	85	94	88	85	93	88	84	81
1.00	99	93	89	98	93	89	96	93	89	85
1.25	103	97	94	102	97	94	100	96	93	89
1.50	105	101	97	104	100	97	102	98	96	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	112	108	105	110	107	104	106	104	102	96
4.00	114	111	109	112	109	107	108	106	105	97
5.00	115	113	111	113	111	109	109	107	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: 24.3 °C  
 Operators:  
 Test Date: 2023-08-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:



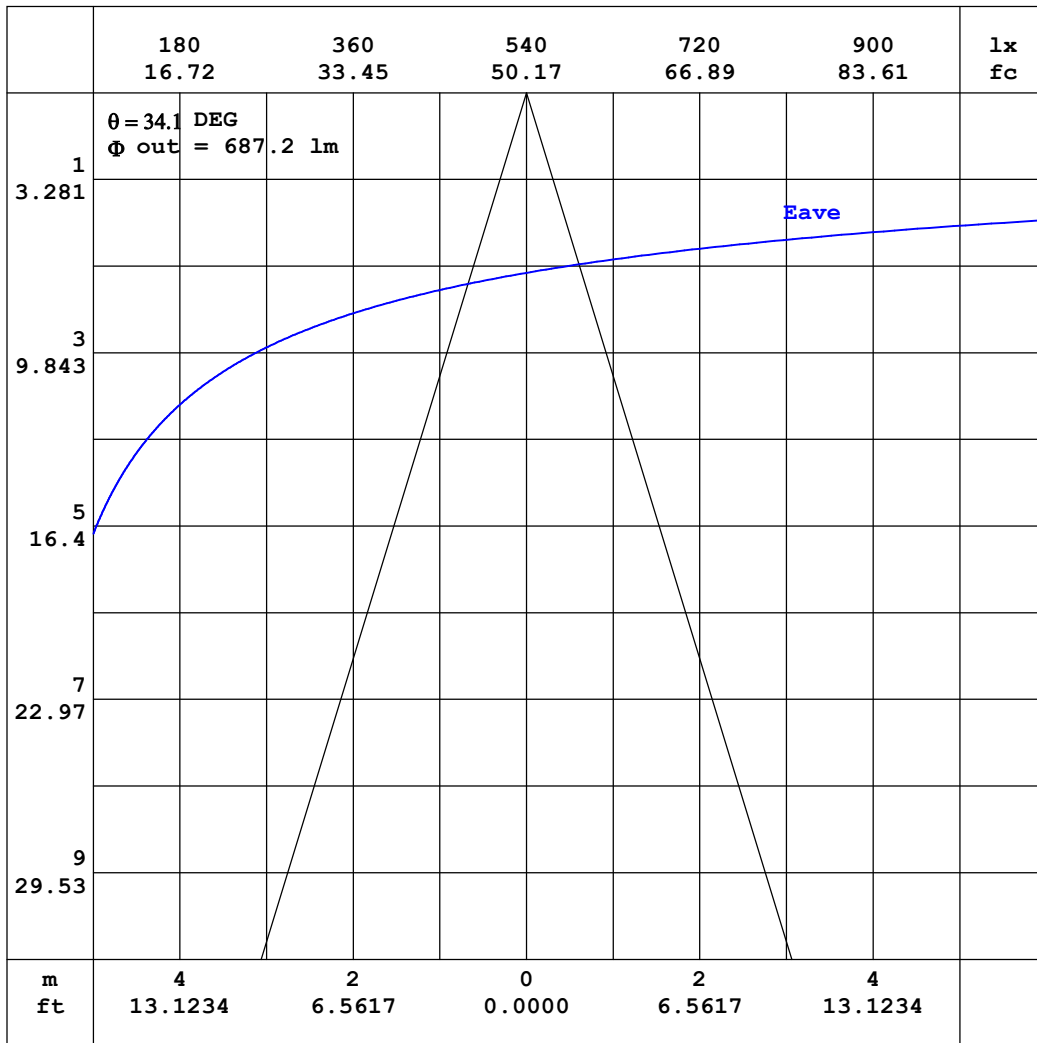
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3°C  
 Operators:  
 Test Date:2023-08-04

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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:



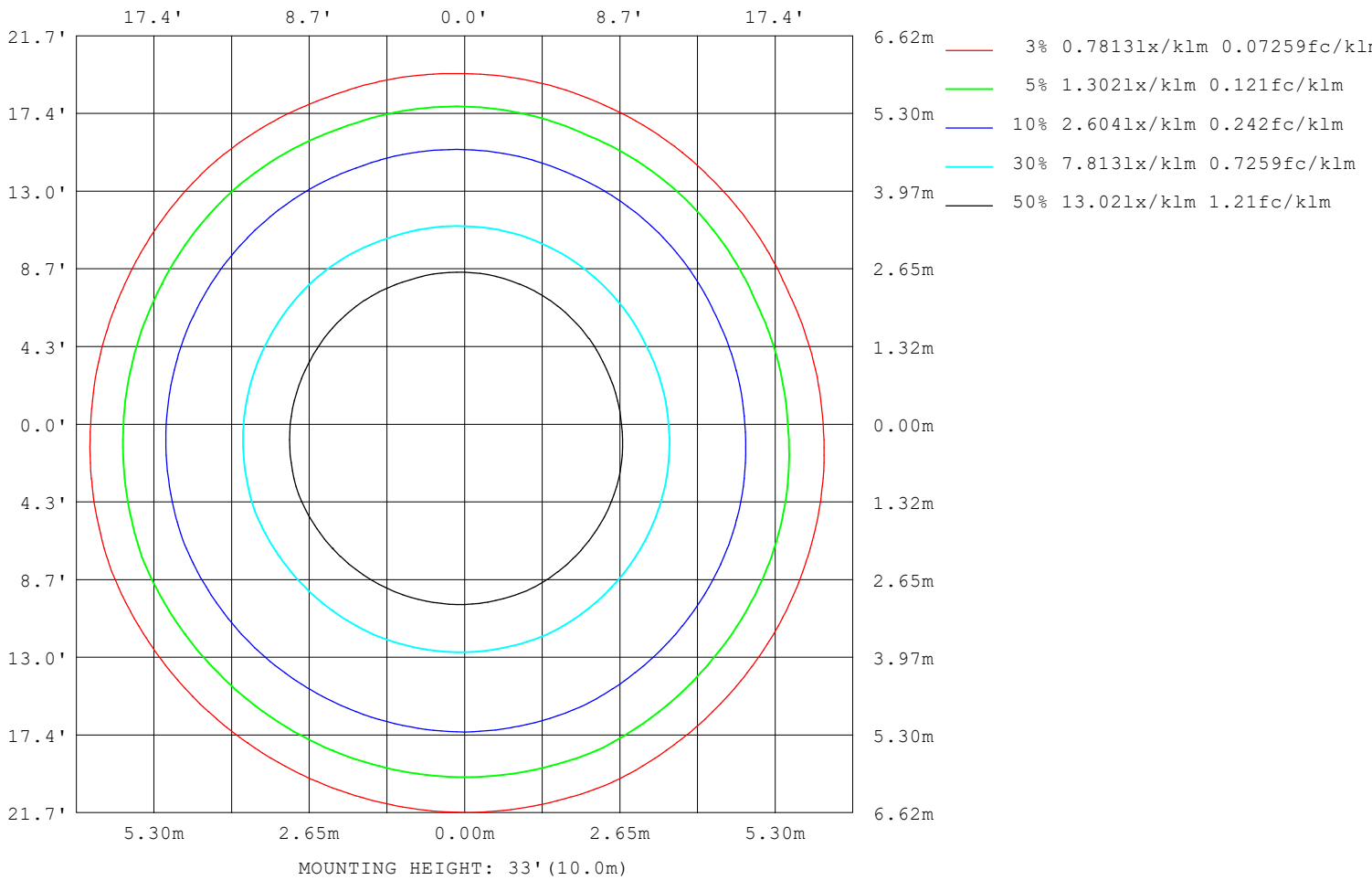
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 24.3°C  
 Operators:  
 Test Date: 2023-08-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3°C  
 Operators:  
 Test Date:2023-08-04

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:119.81V I:0.1118A P:13.200W PF:0.9859 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:1191.38x1 lm		
NAME: ASD-TCS-1D15AC-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: ASD LIGHTING GORP	SUR.:	Shielding Angle:

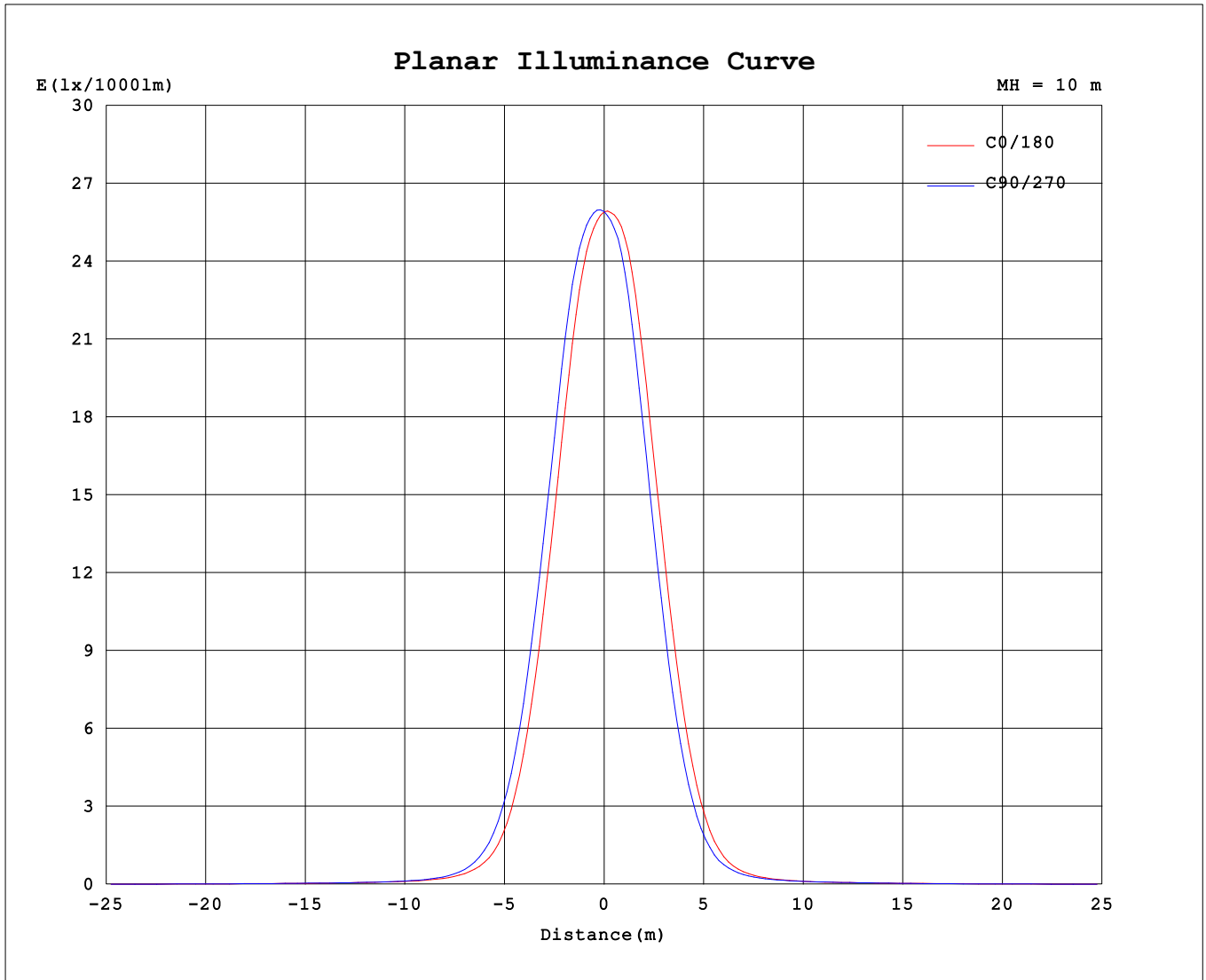
AvgL	cd/m2
L_0~180 (65) av	398
L_0~180 (75) av	190
L_0~180 (85) av	46
L_90~270 (65) av	402
L_90~270 (75) av	195
L_90~270 (85) av	57
L_45 (65) av	429
L_45 (75) av	250
L_45 (85) av	50

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:24.3℃  
 Operators:  
 Test Date:2023-08-04

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: 24.3 °C  
 Operators:  
 Test Date: 2023-08-04

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:

