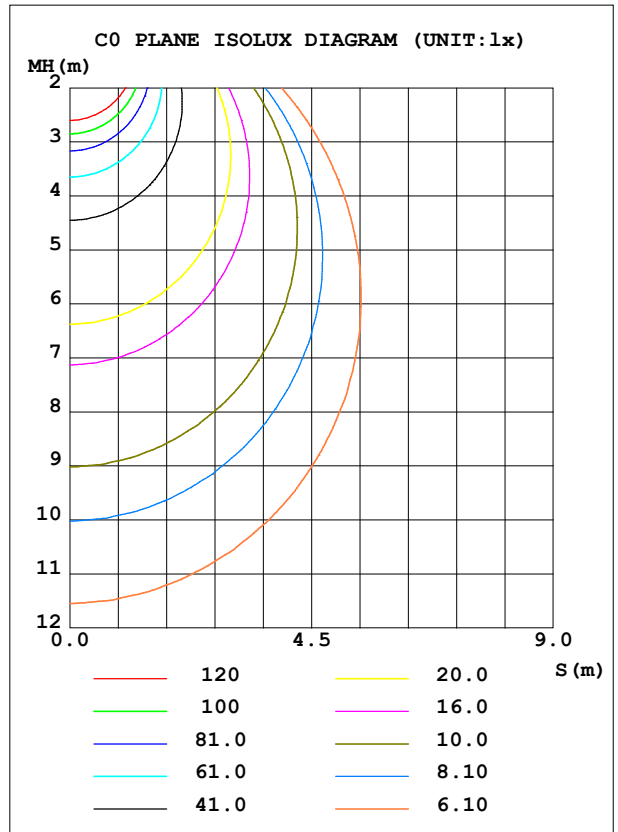
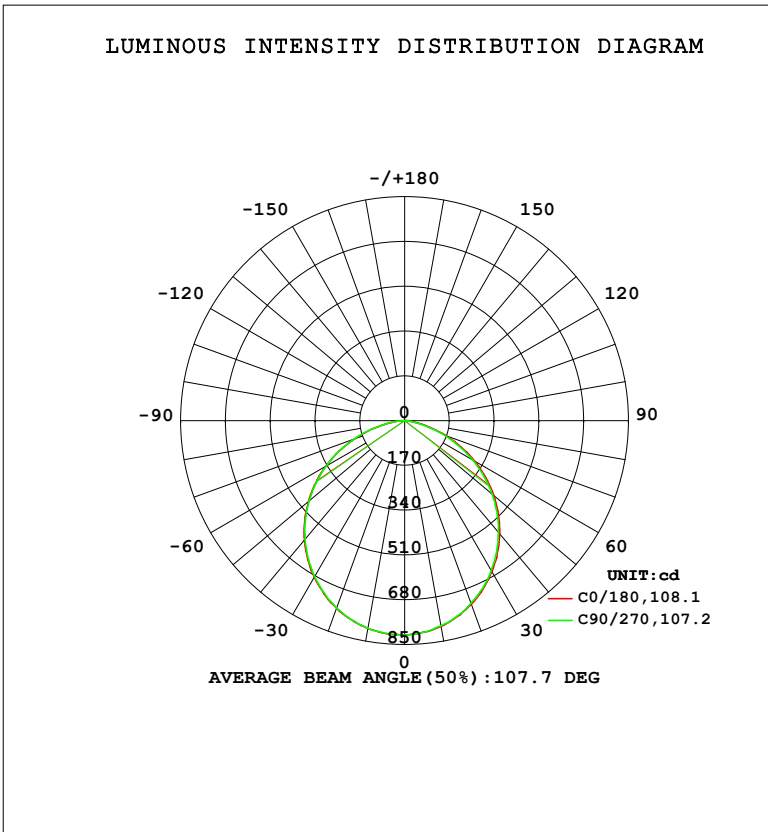


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: 5000K	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL	ASD-SFL2-20WH	Imax (cd)	814.3	S/MH (C0/180)	1.22
NOMINAL POWER (W)	20	LOR (%)	100.0	S/MH (C90/270)	1.25
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	2156.7	$\eta$ UP, DN (C0-180)	0.0,48.1
NOMINAL FLUX (lm)	2156.68	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0,51.9
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120	$\eta$ down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [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	792.9	791.4	790.7	795.7	801.5	801.1	800.9	796.7	0- 10	76.81	76.81	3.56,3.56
20	741.9	737.0	737.7	746.4	757.0	759.4	756.3	748.6	10- 20	218.9	295.7	13.7,13.7
30	662.4	656.1	656.5	670.6	686.5	686.5	683.6	673.3	20- 30	328.6	624.2	28.9,28.9
40	562.9	553.3	554.9	570.9	591.5	592.4	587.8	574.9	30- 40	391.1	1015	47.1,47.1
50	441.9	433.0	433.1	452.9	477.0	477.1	473.1	457.7	40- 50	398.4	1414	65.5,65.5
60	307.0	296.9	297.3	319.4	345.2	348.0	343.0	325.8	50- 60	349.1	1763	81.7,81.7
70	165.6	156.0	156.1	176.6	201.5	206.6	203.8	186.7	60- 70	249.6	2012	93.3,93.3
80	44.58	37.97	35.92	50.42	67.83	75.18	70.68	57.91	70- 80	121.6	2134	98.9,98.9
90	2.316	2.309	1.594	3.167	5.856	7.739	3.646	2.215	80- 90	22.75	2157	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): 1217.2 lm

%lum = 56.4%

%lamp = 56.4%

Conical surface Flux(120deg): 1762.7 lm

%lum = 81.7%

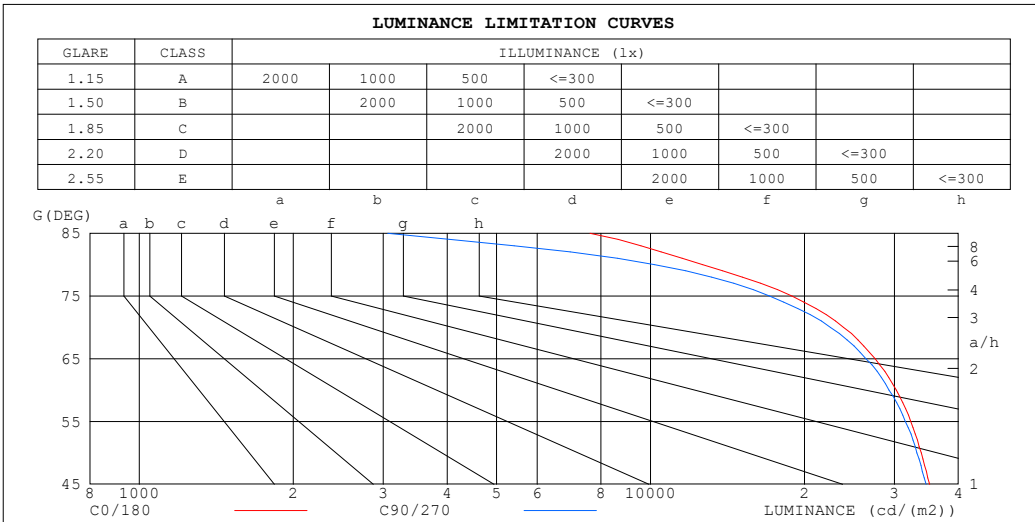
%lamp = 81.7%

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7617	3061
80	12647	10190
75	18920	17089
70	23857	22487
65	27520	26380
60	30243	29289
55	32269	31510
50	33864	33190
45	35138	34594

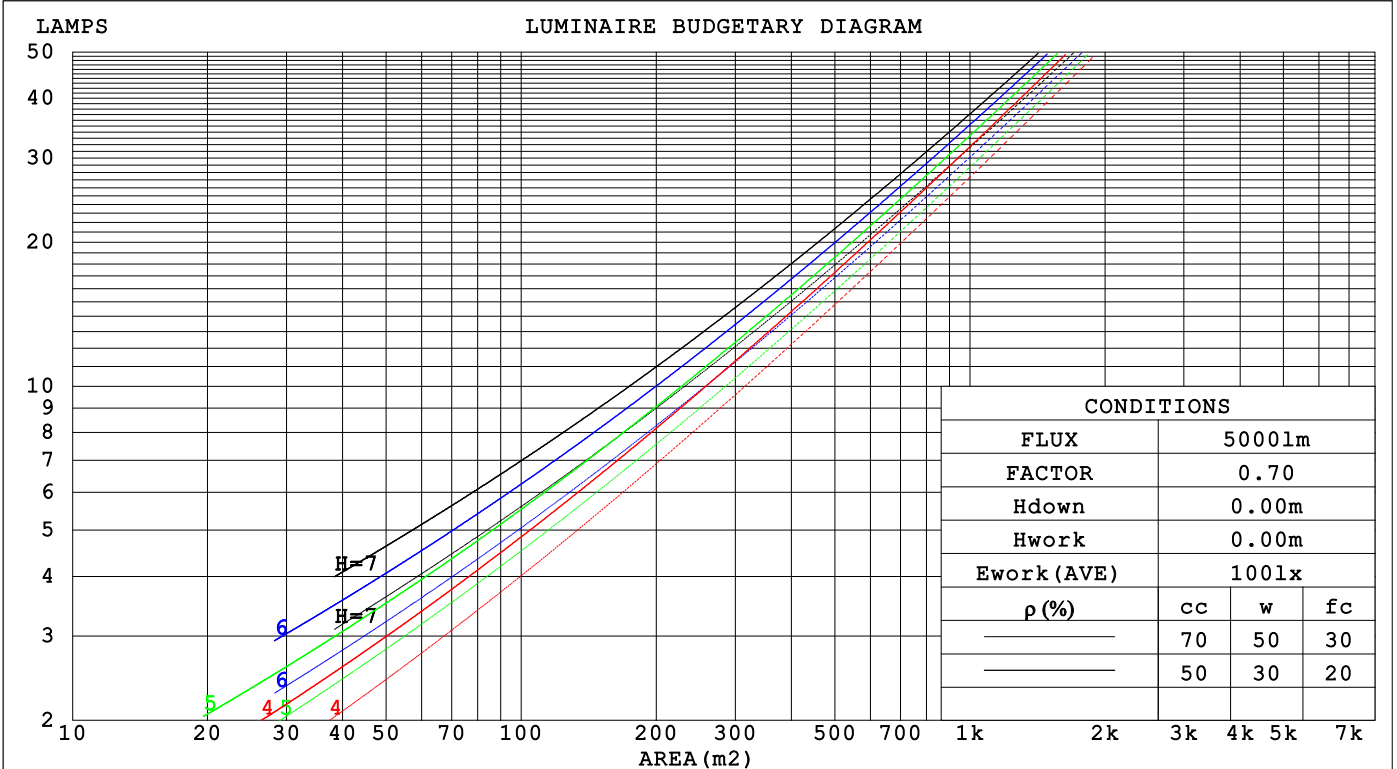
C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz		
UTHdi:0.00% ITHdi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	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	1.05	1.01	.97	1.03	.99	.96	.98	.95	.93	.94	.92	.90	.91	.89	.87	.85
2.0	.92	.85	.80	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.77	.73	.71
3.0	.81	.73	.67	.79	.72	.66	.76	.70	.65	.74	.68	.64	.71	.66	.63	.60
4.0	.72	.63	.57	.70	.62	.56	.68	.61	.55	.66	.60	.55	.63	.58	.54	.52
5.0	.64	.55	.49	.63	.55	.49	.61	.54	.48	.59	.53	.48	.57	.52	.47	.45
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.44	.38	.52	.43	.38	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.40	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.44	.38	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**WEC AND CCEC**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	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	.292	.166	.053	.285	.162	.052	.271	.156	.050	.259	.150	.048	.248	.144	.046	
2.0	.279	.153	.047	.273	.150	.046	.261	.145	.045	.251	.141	.044	.241	.136	.043	
3.0	.261	.139	.042	.255	.137	.041	.245	.133	.040	.235	.129	.040	.227	.125	.039	
4.0	.242	.126	.037	.237	.124	.037	.228	.121	.036	.220	.118	.036	.212	.115	.035	
5.0	.225	.115	.033	.221	.113	.033	.212	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.209	.105	.030	.205	.104	.030	.198	.102	.030	.191	.100	.029	.185	.098	.029	
7.0	.195	.097	.027	.192	.096	.027	.185	.094	.027	.179	.092	.027	.174	.090	.027	
8.0	.183	.089	.025	.180	.088	.025	.174	.087	.025	.169	.085	.025	.163	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.161	.077	.021	.159	.077	.021	.154	.076	.021	.150	.074	.021	.146	.073	.021	

$\rho_{CC}$	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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.100	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.076	.139	.099	.066	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.052	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm										
NAME: ASD-SFL2-20WH					TYPE: 20W			WEIGHT:		
SPEC.: N/A					DIM.:			SERIAL No.: 1		
MFR.: ASD Lighting Corp					SUR.: 0.236*0.086			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	24.7	26.2	24.9	26.4	26.6	24.6	26.1	24.8	26.3	26.5
3H	25.9	27.2	26.1	27.5	27.7	25.7	27.1	26.0	27.3	27.5
4H	26.2	27.5	26.5	27.8	28.0	26.0	27.3	26.3	27.6	27.8
6H	26.3	27.6	26.7	27.8	28.1	26.1	27.3	26.4	27.6	27.9
8H	26.3	27.5	26.7	27.8	28.1	26.1	27.3	26.4	27.5	27.8
12H	26.3	27.5	26.7	27.7	28.0	26.0	27.2	26.4	27.5	27.8
4H 2H	25.2	26.5	25.5	26.7	27.0	25.1	26.4	25.4	26.6	26.9
3H	26.5	27.6	26.8	27.9	28.2	26.3	27.5	26.7	27.8	28.1
4H	26.9	27.9	27.3	28.3	28.6	26.7	27.8	27.1	28.1	28.4
6H	27.1	28.0	27.5	28.4	28.7	26.9	27.8	27.3	28.1	28.5
8H	27.1	28.0	27.5	28.4	28.7	26.9	27.7	27.3	28.1	28.5
12H	27.1	27.9	27.6	28.3	28.7	26.8	27.6	27.3	28.0	28.4
8H 4H	27.0	27.9	27.4	28.2	28.6	26.8	27.7	27.2	28.1	28.4
6H	27.3	28.0	27.7	28.4	28.8	27.0	27.8	27.5	28.2	28.6
8H	27.3	27.9	27.8	28.4	28.8	27.1	27.7	27.5	28.1	28.6
12H	27.3	27.9	27.8	28.3	28.8	27.0	27.6	27.5	28.0	28.5
12H 4H	27.0	27.8	27.4	28.1	28.5	26.8	27.6	27.2	28.0	28.4
6H	27.3	27.9	27.7	28.3	28.8	27.0	27.7	27.5	28.1	28.5
8H	27.3	27.9	27.8	28.3	28.8	27.1	27.6	27.5	28.0	28.5
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117, 2157 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.7)  
 Area: 0.0203 m2

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:

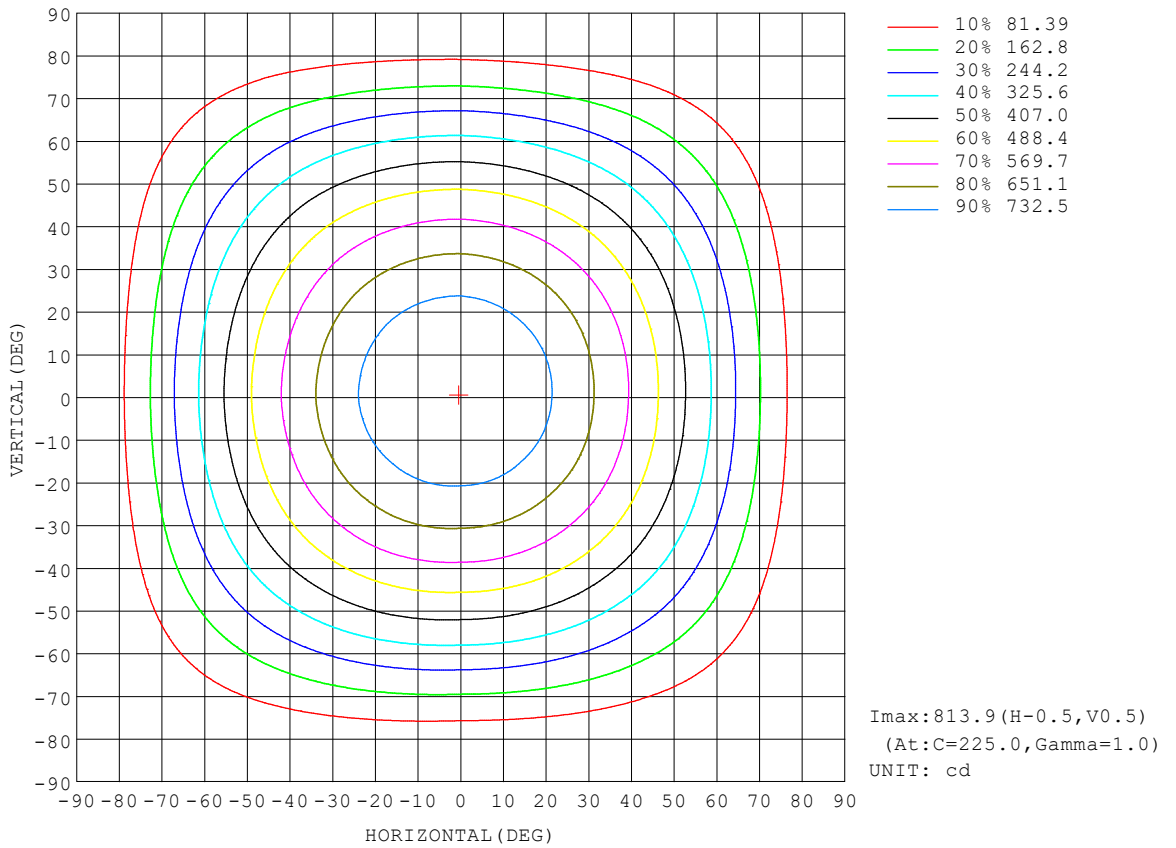
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	41	58	47	40	57	47	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	77	67	60	76	66	59	74	67	59	52
1.25	85	74	68	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	85	80	72
2.50	100	93	87	98	91	86	94	89	84	76
3.00	103	97	91	101	95	90	97	92	88	80
4.00	107	102	97	105	100	96	101	97	93	85
5.00	109	105	101	107	103	99	103	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:

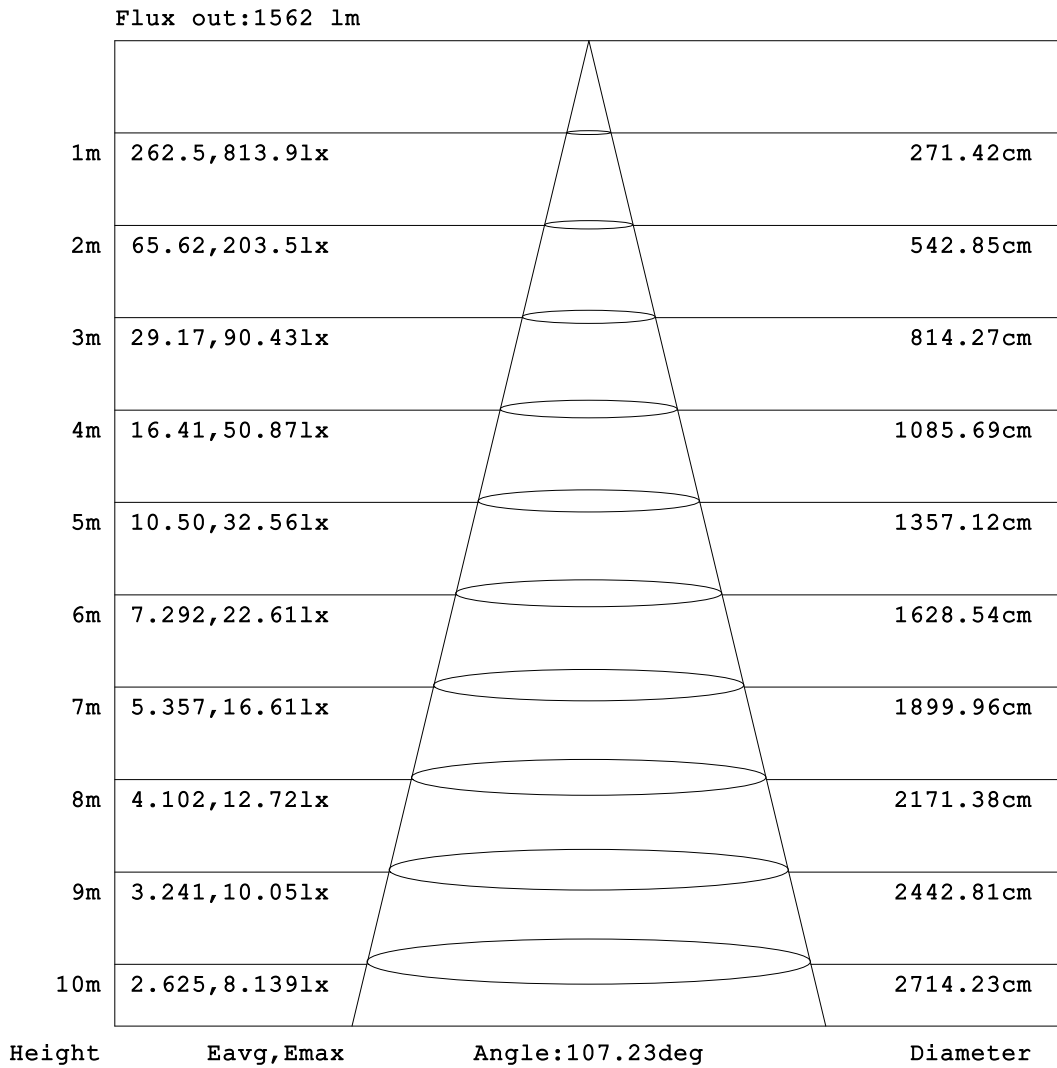


C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**AAI Figure**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:



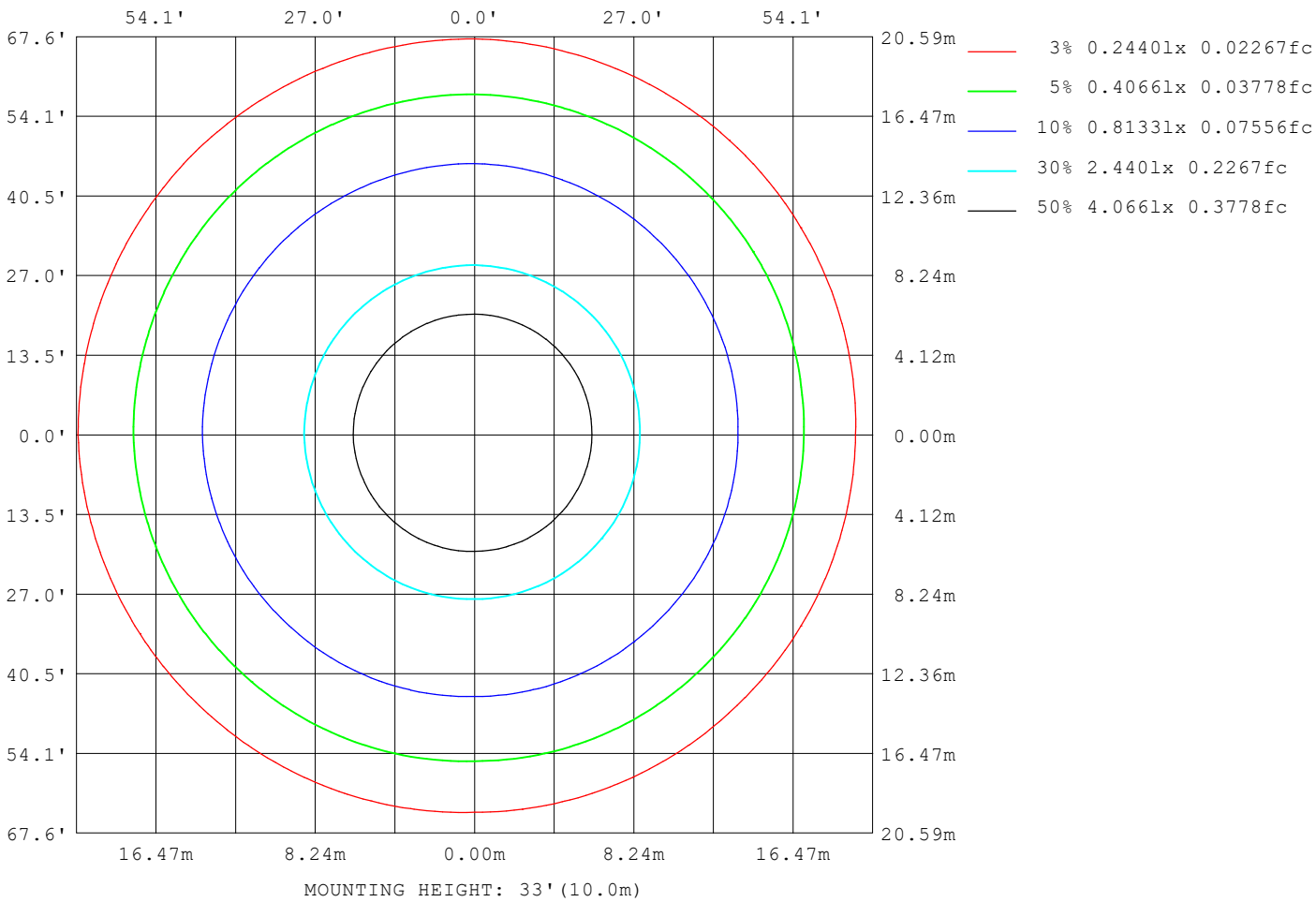
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: DAMIN  
 Test Date: 2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**LED Avg.L Report**

Test:U:120.30V I:0.1747A P:19.587W PF:0.9321 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:2156.68x1 lm		
NAME: ASD-SFL2-20WH	TYPE: 20W	WEIGHT:
SPEC.: N/A	DIM.:	SERIAL No.: 1
MFR.: ASD Lighting Corp	SUR.: 0.236*0.086	Shielding Angle:

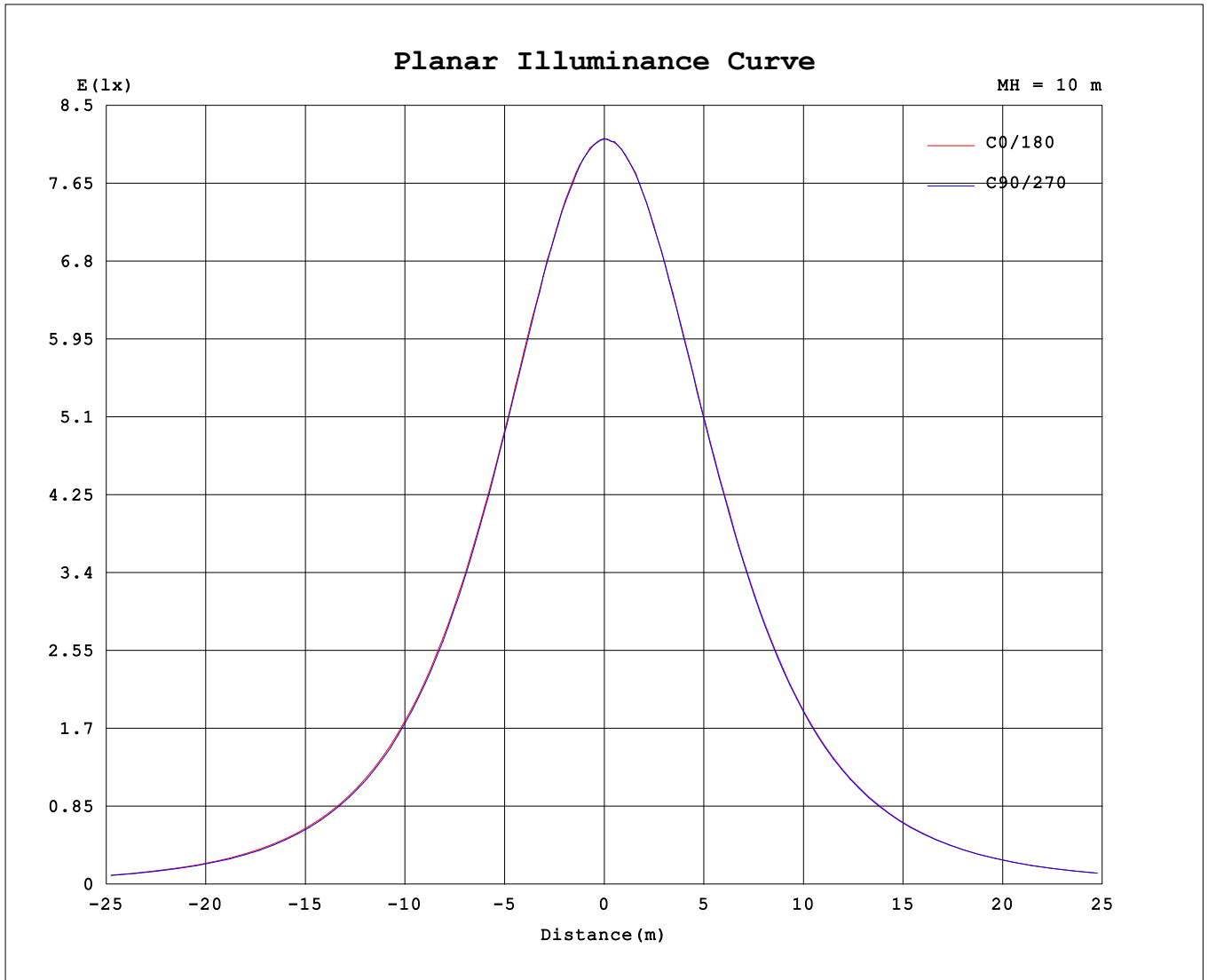
AvgL	cd/m2
L_0~180 (65) av	29777
L_0~180 (75) av	21918
L_0~180 (85) av	11056
L_90~270 (65) av	29134
L_90~270 (75) av	21349
L_90~270 (85) av	7336
L_45 (65) av	29387
L_45 (75) av	21797
L_45 (85) av	9309

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:DAMIN  
 Test Date:2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity:65.0%  
 Test Distance:9.850m [K=1.0000]  
 Remarks:

**Planar Illuminance Curve**



C Range: 0 - 360DEG  
 C Interval: 45.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3°C  
 Operators: DAMIN  
 Test Date: 2024-5-20

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System: EVERFINE GO-2000H\_V1 SYSTEM V2.00.456  
 Humidity: 65.0%  
 Test Distance: 9.850m [K=1.0000]  
 Remarks:

