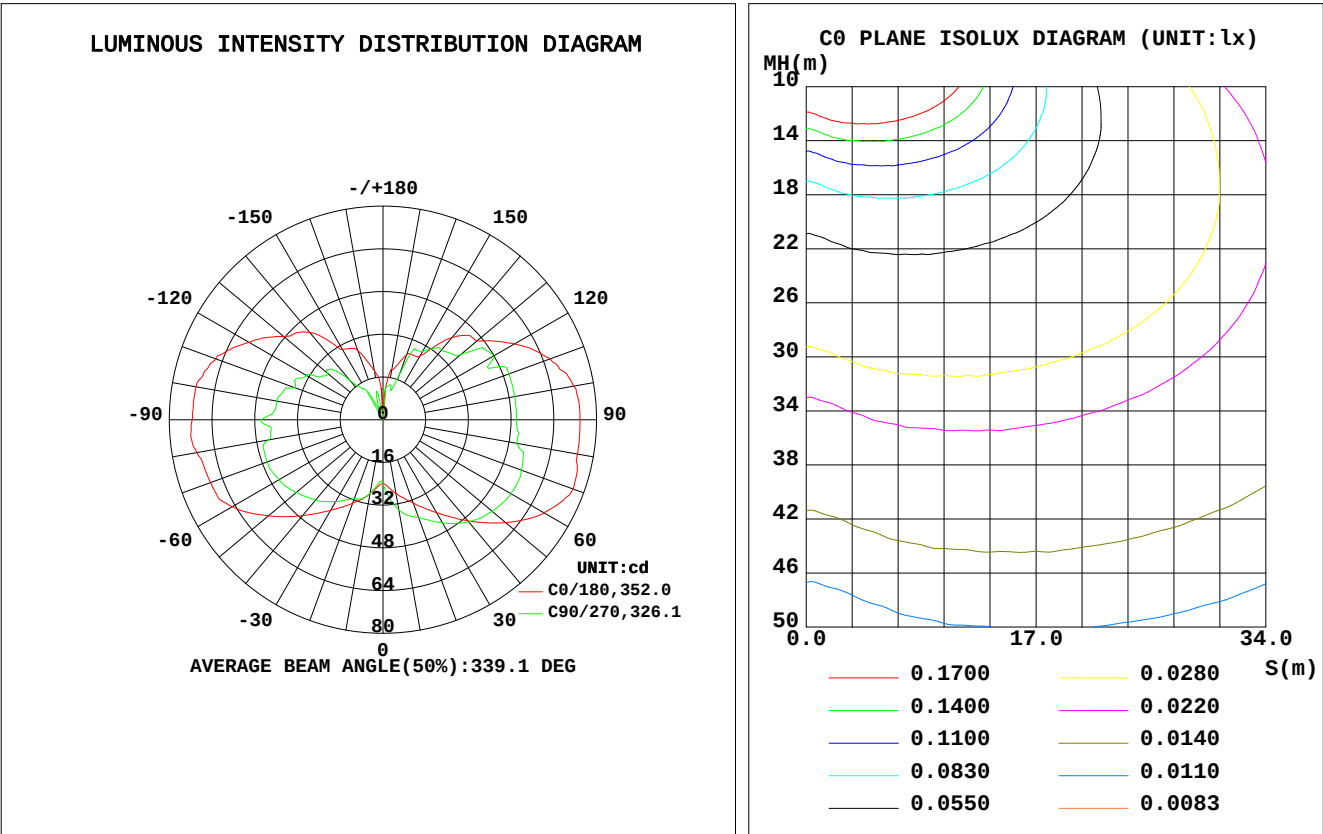


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm		
NAME: ASD-LWS27A-18D12SM-RGBW-BK	TYPE:LED	WEIGHT:N/A
SPEC.:6500K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 46.22 lm/W
MODEL	ASD-LWS27A-18D12SM-RGBW-BK	Imax(cd)	75.80	S/MH(C0/180)	2.78	
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	2.29	
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	590.05	η UP, DN(C0-180)	25.9,30.6	
NOMINAL FLUX(lm)	590.045	CIE CLASS	DIFFUSE	η UP, DN(C180-360)	18.9,24.5	
LAMPS INSIDE	1	η up(%)	44.8	CIBSE SHR NOM	2.00	
TEST VOLTAGE(V)	120	η down(%)	55.2	CIBSE SHR MAX	2.00	



ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	28.03	34.41	34.26	32.89	28.15	27.24	28.03	28.44	0- 10	2.637	2.637	0.45,0.45
20	33.28	41.98	39.03	40.55	33.29	32.50	31.66	33.79	10- 20	9.525	12.16	2.06,2.06
30	40.23	47.52	44.53	45.99	39.17	35.26	35.40	36.99	20- 30	17.95	30.12	5.1,5.1
40	49.39	53.98	49.95	52.39	46.87	38.13	39.32	40.20	30- 40	27.88	58.00	9.83,9.83
50	59.95	60.34	53.51	58.38	56.02	40.62	42.40	42.88	40- 50	38.56	96.55	16.4,16.4
60	69.65	64.97	55.28	63.37	65.15	43.20	45.01	45.92	50- 60	48.99	145.5	24.7,24.7
70	75.80	66.65	55.23	65.52	68.76	43.19	46.17	46.26	60- 70	57.20	202.7	34.4,34.4
80	73.96	63.78	50.91	62.47	70.75	43.85	43.33	46.00	70- 80	61.01	263.7	44.7,44.7
90	73.78	62.40	49.96	62.33	71.46	46.86	45.66	49.02	80- 90	61.81	325.6	55.2,55.2
100	72.65	62.31	50.08	61.50	71.13	41.52	40.43	42.87	90-100	60.44	386.0	65.4,65.4
110	66.59	59.35	50.20	59.72	66.49	38.02	35.02	39.13	100-110	55.81	441.8	74.9,74.9
120	56.92	55.76	47.71	56.87	57.98	33.30	33.15	34.13	110-120	48.24	490.0	83.1,83.1
130	45.98	53.36	37.97	54.29	48.39	28.79	26.99	30.48	120-130	38.39	528.4	89.6,89.6
140	40.19	41.11	34.27	43.16	42.68	19.75	19.40	18.32	130-140	28.40	556.8	94.4,94.4
150	27.52	27.54	29.53	37.65	30.45	20.03	12.97	11.32	140-150	17.47	574.3	97.3,97.3
160	25.90	22.40	17.94	12.66	27.67	21.32	4.492	11.30	150-160	9.857	584.2	99,99
170	19.09	18.97	13.14	17.31	18.72	19.01	6.508	5.287	160-170	4.808	589.0	99.8,99.8
180	2.440	6.950	10.55	6.662	3.076	0.5917	0	0.2674	170-180	1.070	590.0	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 75.934 lm

%lum = 12.9%

%lamp = 12.9%

Conical surface Flux(120deg): 145.54 lm

%lum = 24.7%

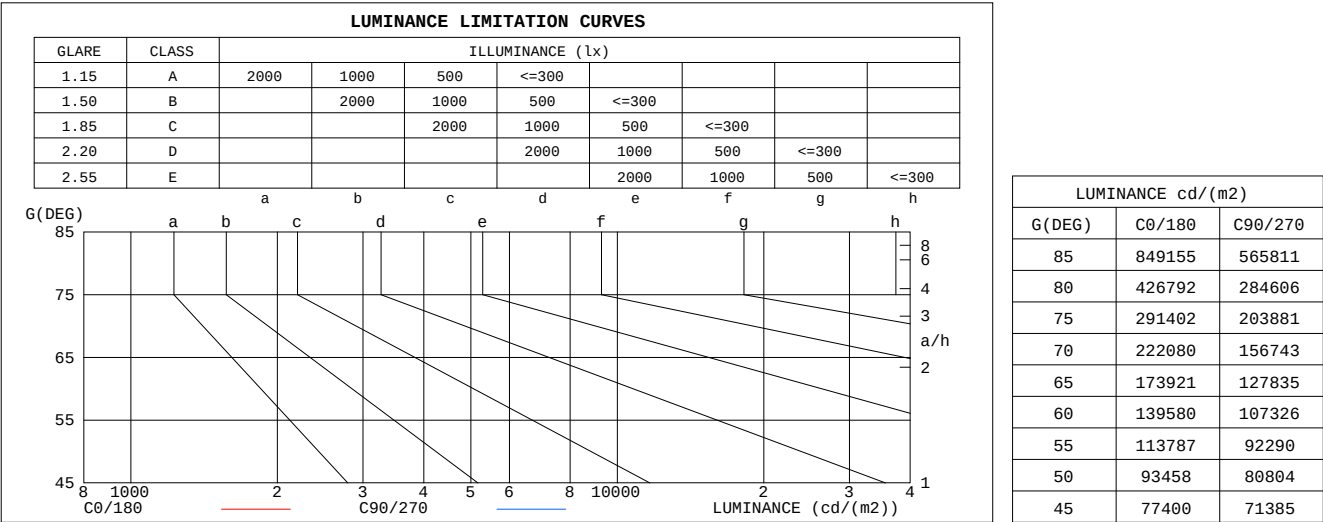
%lamp = 24.7%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2024-12-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5449]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm		
NAME:ASD-LWS27A-18D12SM-RGBW-BK	TYPE:LED	WEIGHT:N/A
SPEC.:6500K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2024-12-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5449]
Remarks:

WEC AND CCEC

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm								
NAME:ASD-LWS27A-18D12SM-RGBW-BK				TYPE:LED			WEIGHT:N/A	
SPEC.:6500K				DIM.:			SERIAL No.:N/A	
MFR.: ASD Lighting Corp				SUR.:			Shielding Angle:N/A	

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	.428	.243	.077	.407	.232	.074	.368	.211	.067	.332	.191	.061	.298	.173	.056	
2.0	.355	.195	.060	.336	.185	.057	.300	.167	.052	.267	.150	.047	.237	.134	.042	
3.0	.309	.164	.049	.291	.156	.047	.259	.140	.043	.228	.125	.038	.200	.111	.034	
4.0	.274	.142	.042	.258	.135	.040	.228	.121	.036	.200	.107	.032	.174	.095	.029	
5.0	.247	.126	.036	.232	.119	.035	.204	.106	.031	.179	.094	.028	.155	.083	.025	
6.0	.224	.112	.032	.211	.106	.031	.185	.095	.028	.162	.084	.025	.139	.073	.022	
7.0	.206	.102	.029	.193	.096	.027	.170	.086	.025	.148	.076	.022	.127	.066	.019	
8.0	.190	.093	.026	.178	.088	.025	.156	.078	.022	.136	.069	.020	.117	.060	.017	
9.0	.176	.085	.024	.165	.081	.023	.145	.072	.020	.126	.063	.018	.108	.055	.016	
10.0	.164	.079	.022	.154	.075	.021	.135	.066	.019	.118	.058	.017	.101	.051	.015	

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	.532	.532	.532	.455	.455	.455	.310	.310	.310	.178	.178	.178	.057	.057	.057	
1.0	.533	.499	.469	.456	.429	.404	.312	.295	.279	.179	.171	.162	.057	.055	.053	
2.0	.527	.478	.437	.452	.412	.378	.310	.285	.263	.178	.166	.154	.057	.054	.050	
3.0	.520	.463	.417	.446	.399	.362	.306	.278	.254	.177	.162	.150	.057	.053	.049	
4.0	.513	.452	.405	.440	.390	.352	.303	.272	.248	.175	.159	.146	.056	.052	.048	
5.0	.505	.443	.396	.434	.383	.345	.299	.267	.243	.173	.157	.144	.056	.051	.048	
6.0	.498	.435	.390	.428	.377	.340	.295	.264	.240	.171	.155	.143	.055	.051	.047	
7.0	.491	.429	.385	.422	.372	.336	.292	.261	.238	.170	.154	.142	.055	.050	.047	
8.0	.485	.424	.382	.417	.368	.333	.289	.258	.236	.168	.152	.141	.054	.050	.047	
9.0	.478	.419	.379	.412	.364	.331	.285	.256	.235	.166	.151	.140	.054	.050	.046	
10.0	.472	.415	.377	.407	.361	.329	.283	.254	.234	.165	.150	.140	.053	.049	.046	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2024-12-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5449]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm											
NAME: ASD-LWS27A-18D12SM-RGBW-BK						TYPE:LED			WEIGHT:N/A		
SPEC.:6500K						DIM.:			SERIAL No.:N/A		
MFR.: ASD Lighting Corp						SUR.:			Shielding Angle:N/A		
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	27.2	28.4	28.0	29.2	30.3	26.4	27.5	27.2	28.4	29.5	
	3H	30.8	31.9	31.6	32.7	33.8	29.5	30.6	30.4	31.5	32.6
	4H	32.8	33.8	33.6	34.6	35.8	31.3	32.3	32.1	33.1	34.3
	6H	34.8	35.8	35.7	36.7	37.8	33.0	34.0	33.9	34.9	36.0
	8H	36.0	36.9	36.9	37.8	39.0	34.0	34.9	34.9	35.8	37.0
	12H	37.3	38.2	38.2	39.1	40.3	35.2	36.0	36.1	37.0	38.1
4H	2H	28.2	29.2	29.0	30.1	31.2	27.6	28.6	28.5	29.5	30.7
	3H	31.8	32.7	32.7	33.6	34.7	30.9	31.8	31.8	32.7	33.8
	4H	33.8	34.6	34.7	35.6	36.8	32.8	33.6	33.7	34.5	35.7
	6H	36.1	36.8	37.0	37.7	39.0	34.7	35.4	35.6	36.3	37.5
	8H	37.3	38.0	38.3	39.0	40.2	35.7	36.4	36.6	37.3	38.6
	12H	38.8	39.4	39.7	40.4	41.6	36.9	37.5	37.9	38.5	39.8
8H	4H	34.4	35.1	35.3	36.0	37.3	33.6	34.3	34.5	35.2	36.5
	6H	36.9	37.5	37.9	38.4	39.7	35.8	36.4	36.7	37.3	38.6
	8H	38.3	38.9	39.3	39.8	41.1	37.0	37.5	38.0	38.5	39.8
	12H	40.0	40.5	41.0	41.5	42.8	38.5	38.9	39.4	39.9	41.2
12H	4H	34.6	35.2	35.5	36.1	37.4	33.8	34.5	34.8	35.4	36.7
	6H	37.1	37.7	38.1	38.6	39.9	36.2	36.7	37.1	37.7	38.9
	8H	38.7	39.1	39.7	40.1	41.4	37.5	38.0	38.5	39.0	40.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					

CIE Pub.117, 590.0 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -1.8$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2024-12-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5449]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm		
NAME:ASD-LWS27A-18D12SM-RGBW-BK	TYPE:LED	WEIGHT:N/A
SPEC.:6500K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

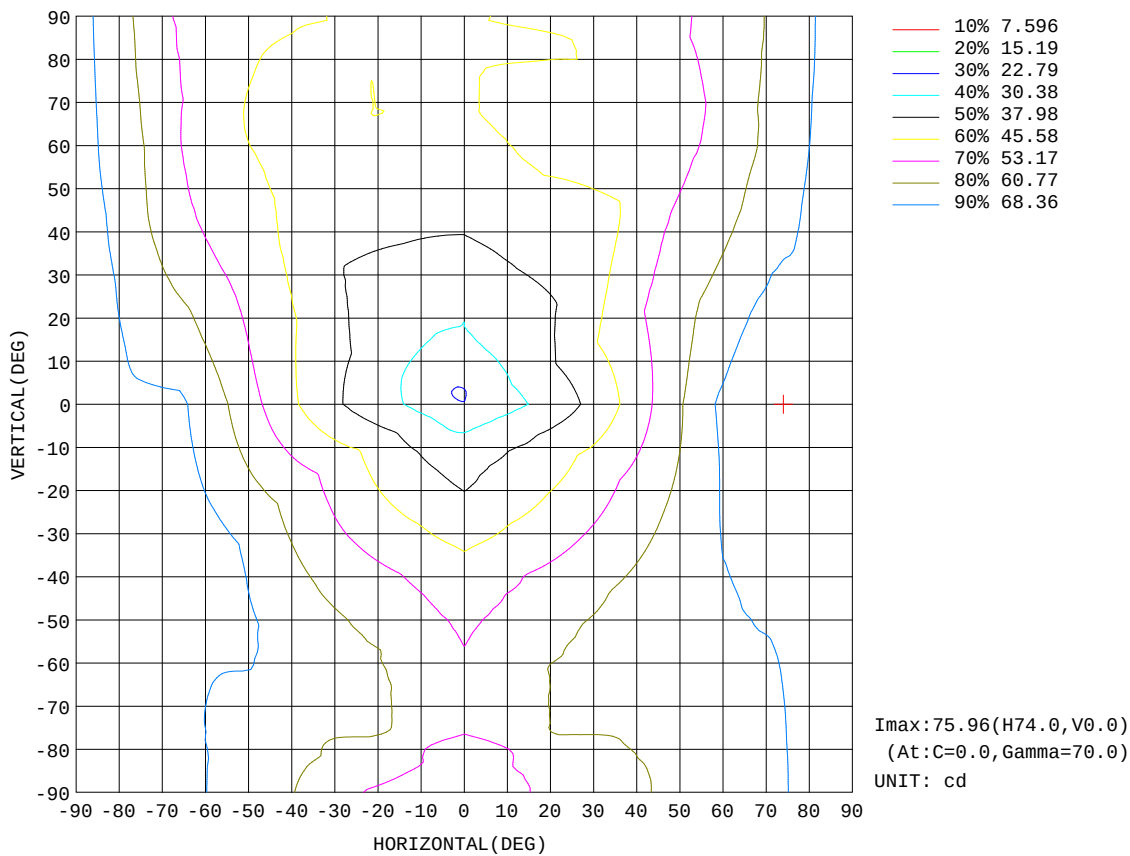
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	36	23	16	34	22	15	31	20	14	7
0.80	44	30	22	42	29	21	37	26	19	10
1.00	52	37	28	49	35	27	43	34	24	13
1.25	59	44	34	55	42	33	48	37	29	16
1.50	64	50	40	60	47	38	52	41	34	19
2.00	72	59	49	67	55	46	58	48	41	24
2.50	77	65	55	71	61	52	61	53	46	27
3.00	81	70	61	75	65	57	64	57	50	30
4.00	86	77	69	80	72	64	69	62	56	34
5.00	90	81	74	83	76	69	71	65	60	36
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:24.9DEG
 Operators:Zero huang
 Test Date:2024-12-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5449]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm		
NAME:ASD-LWS27A-18D12SM-RGBW-BK	TYPE:LED	WEIGHT:N/A
SPEC.:6500K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

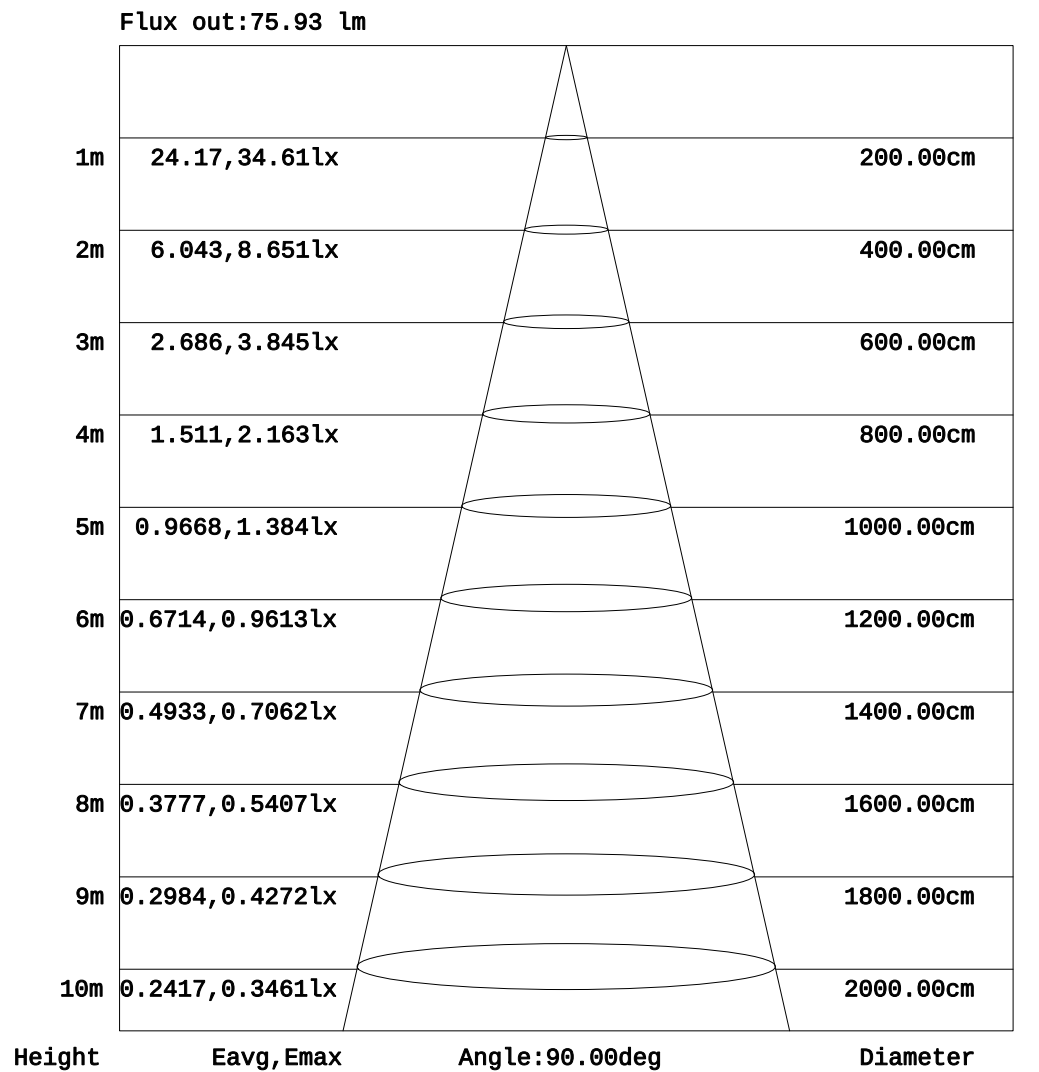


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.9DEG
Operators: Zero huang
Test Date: 2024-12-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity: 60%
Test Distance: 26.000m [K=1.5449]
Remarks:

AAI Figure

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm		
NAME:ASD-LWS27A-18D12SM-RGBW-BK	TYPE:LED	WEIGHT:N/A
SPEC.:6500K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

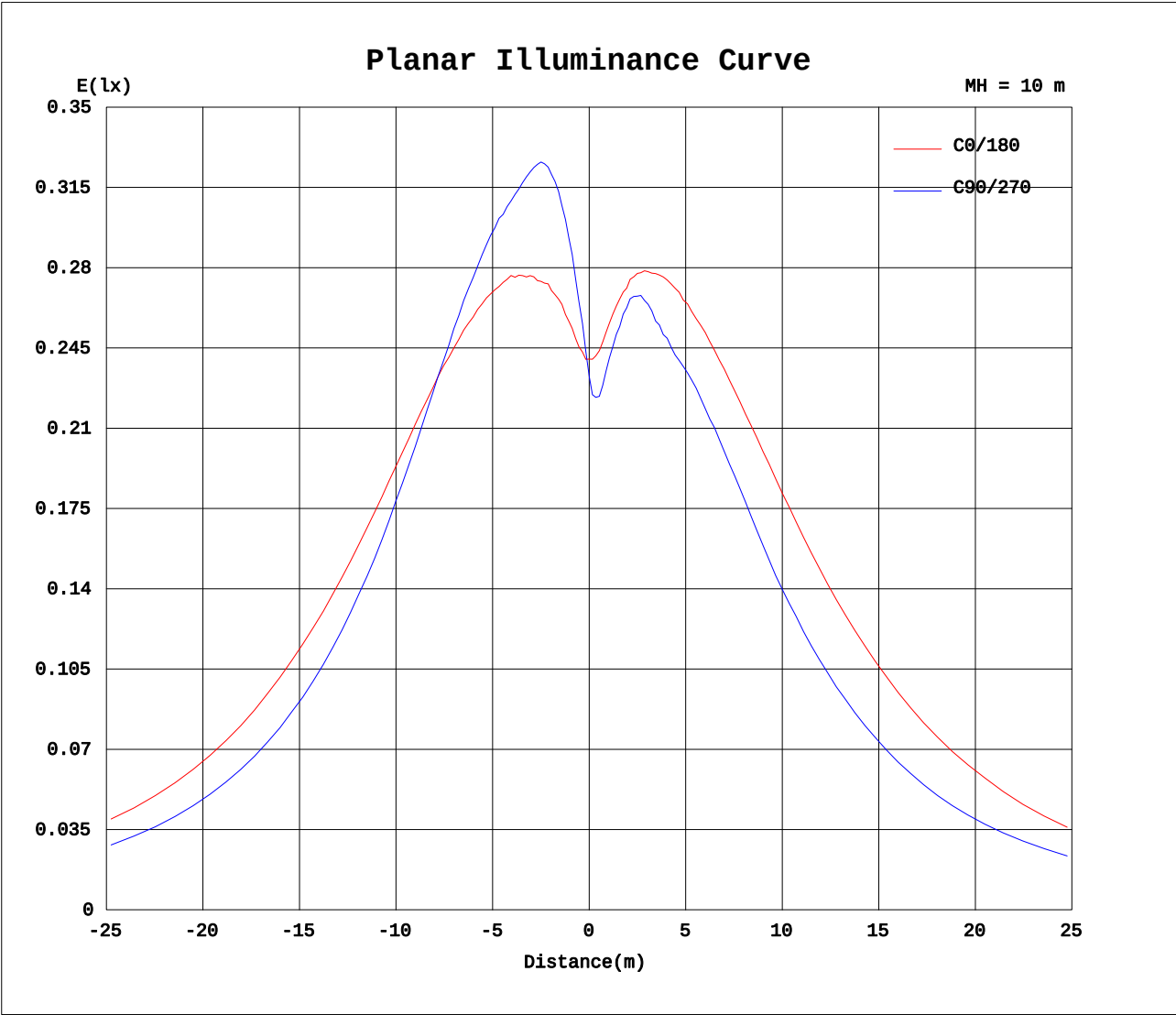


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2024-12-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5449]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2024-12-13

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5449]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.22V I:0.1954A P:12.767W PF:0.5436 Freq:60.01Hz Lamp Flux:590.045x1 lm																		
NAME: ASD-LWS27A-18D12SM-RGBW-BK									TYPE:LED					WEIGHT:N/A				
SPEC.:6500K									DIM.:					SERIAL No.:N/A				
MFR.:ASD Lighting Corp									SUR.:					Shielding Angle:N/A				

Table--1

UNIT: cd

C(°)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
γ (°)	0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0			
5	25.6	28.0	29.5	30.1	29.8	28.9	28.0	25.7	25.4	24.2	23.7	23.7	24.5	24.9	24.8	24.4			
10	28.0	32.2	34.4	35.1	34.3	33.9	32.9	29.7	28.1	27.0	27.2	27.4	28.0	28.7	28.4	26.9			
15	30.4	36.1	38.7	38.8	37.2	37.7	37.1	33.7	30.8	30.4	30.4	30.3	30.6	31.5	31.4	29.9			
20	33.3	39.9	42.0	41.0	39.0	40.4	40.5	37.5	33.3	33.5	32.5	31.6	31.7	33.2	33.8	33.1			
25	36.4	43.6	44.7	43.7	41.7	43.1	43.3	41.1	36.1	36.5	33.8	33.0	33.2	34.8	35.4	36.4			
30	40.2	47.1	47.5	47.2	44.5	46.6	46.0	44.6	39.2	39.3	35.3	35.4	35.4	37.0	37.0	39.7			
35	44.5	50.7	50.7	50.6	47.5	49.9	49.0	47.9	42.8	42.3	36.7	37.4	37.4	39.2	38.6	42.9			
40	49.4	54.2	54.0	53.5	50.0	53.0	52.4	51.0	46.9	44.9	38.1	39.2	39.3	41.1	40.2	45.9			
45	54.6	57.5	57.4	56.5	52.0	55.8	55.6	54.2	51.3	47.2	39.6	40.6	40.7	42.6	41.6	48.6			
50	60.0	60.8	60.3	58.3	53.5	58.1	58.4	57.7	56.0	49.3	40.6	42.2	42.4	44.4	42.9	50.9			
55	65.1	63.9	62.8	60.2	54.5	60.1	61.2	60.8	60.9	50.8	41.7	43.8	43.9	46.1	44.2	52.7			
60	69.6	66.5	65.0	61.6	55.3	61.7	63.4	63.9	65.1	51.4	43.2	45.0	45.0	47.5	45.9	53.3			
65	73.4	67.9	66.6	62.5	55.7	62.7	65.3	65.4	68.2	51.6	43.7	46.2	45.9	48.7	46.3	53.4			
70	75.8	68.0	66.7	62.9	55.2	63.3	65.5	65.7	68.8	51.9	43.2	46.7	46.2	49.5	46.3	53.5			
75	75.3	67.7	65.0	63.0	54.4	62.8	63.9	65.0	69.3	52.7	42.4	46.7	46.1	49.7	45.3	54.0			
80	74.0	66.7	63.8	59.1	50.9	59.5	62.5	65.1	70.7	53.8	43.9	44.5	43.3	47.4	46.0	54.4			
85	73.9	66.5	62.6	58.0	50.8	57.2	62.4	65.5	72.3	54.1	46.3	42.9	42.0	46.2	48.0	55.0			
90	73.8	66.5	62.4	57.0	50.0	53.5	62.3	65.7	71.5	53.8	46.9	46.2	45.7	49.6	49.0	55.0			
95	73.7	66.4	62.4	57.0	50.0	50.6	62.3	65.7	71.3	52.9	44.4	41.9	40.8	44.5	45.8	53.6			
100	72.6	66.4	62.3	56.9	50.1	47.4	61.5	65.4	71.1	51.9	41.5	40.7	40.4	43.2	42.9	51.9			
105	70.0	64.4	61.2	57.0	50.1	44.3	60.5	65.1	69.4	49.3	39.8	40.2	39.0	43.5	41.4	48.4			
110	66.6	62.7	59.4	56.6	50.2	41.3	59.7	63.2	66.5	46.2	38.0	40.0	35.0	43.8	39.1	43.9			
115	62.1	59.9	57.4	56.3	46.6	38.4	59.0	60.9	62.8	42.4	35.9	40.3	36.0	43.2	36.4	39.1			
120	56.9	56.5	55.8	55.3	47.7	39.6	56.9	58.6	58.0	38.6	33.3	36.1	33.2	37.3	34.1	34.3			
125	51.4	53.3	54.2	48.5	46.3	42.0	55.7	55.4	53.5	34.5	30.9	32.9	28.4	36.1	33.0	29.4			
130	46.0	50.0	53.4	43.7	38.0	37.8	54.3	52.1	48.4	30.8	28.8	32.1	27.0	32.3	30.5	26.0			
135	44.8	49.0	47.8	42.7	35.4	42.4	48.3	50.6	46.0	29.3	26.0	26.9	26.4	26.6	25.2	24.3			
140	40.2	44.0	41.1	39.3	34.3	39.2	43.2	46.0	42.7	27.6	19.7	17.2	19.4	17.8	18.3	22.3			
145	33.2	35.5	37.8	35.7	32.5	33.5	41.4	36.5	36.7	26.2	18.6	10.5	14.9	11.6	14.4	19.9			
150	27.5	30.2	27.5	31.4	29.5	29.2	37.6	29.9	30.5	26.1	20.0	6.68	13.0	10.11	11.3	19.8			
155	26.7	29.2	17.6	26.2	29.0	27.5	20.2	31.0	29.4	30.0	21.3	7.55	6.62	6.78	9.90	20.1			
160	25.9	27.1	22.4	12.1	17.9	14.5	12.7	28.0	27.7	28.6	21.3	14.1	4.49	4.21	11.3	18.0			
165	21.5	21.6	21.0	15.6	11.4	10.8	19.4	22.9	22.6	23.3	20.4	18.0	9.28	3.62	11.5	17.2			
170	19.1	18.6	19.0	15.1	13.1	14.3	17.3	18.5	18.7	18.9	19.0	16.7	6.51	1.75	5.29	12.4			
175	12.6	13.4	12.1	11.5	12.1	12.2	13.5	13.3	14.6	15.1	13.2	5.86	1.29	0.28	1.04	1.42			
180	2.44	3.22	6.95	8.40	10.6	10.9	6.66	6.12	3.08	0.00	0.59	0.00	0.00	0.28	0.27	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2024-12-13

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5449]
 Remarks: