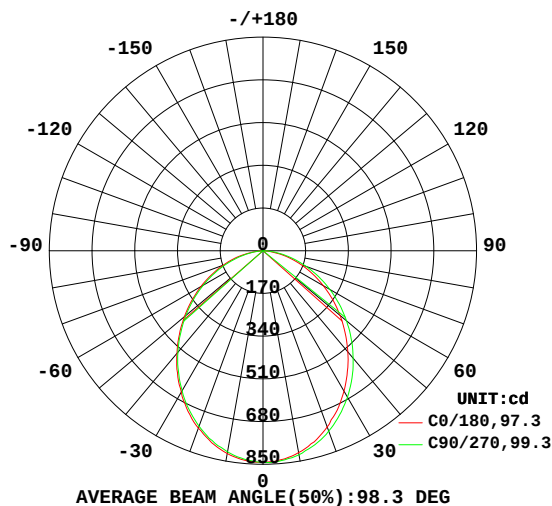


LUMINAIRE PHOTOMETRIC TEST REPORT

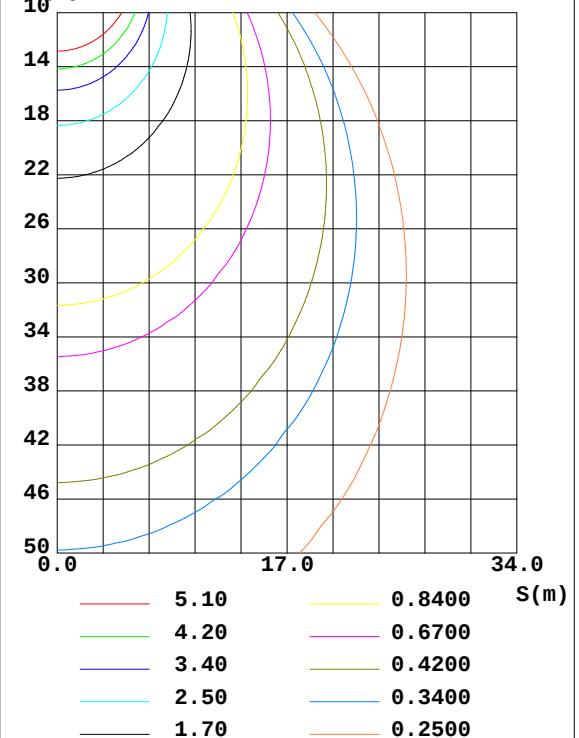
Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME:ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 75.04 lm/W			
MODEL	ASD-LWS30-39D28BK	I _{max} (cd)	843.7	S/MH(C0/180)	1.16
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	1.15
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	2043.3	η UP, DN(C0-180)	0.1, 51.1
NOMINAL FLUX(lm)	2043.33	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 48.7
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	120	η down(%)	99.8	CIBSE SHR MAX	1.30

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:John Yao
Test Date:2025-12-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:55%
Test Distance:26.000m [K=1.5850]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	815.7	822.9	824.7	822.3	819.4	814.5	813.0	812.3	0- 10	79.20	79.20	3.88, 3.88
20	746.6	758.4	764.0	757.8	751.8	745.3	743.7	739.6	10- 20	222.1	301.3	14.7, 14.7
30	644.8	661.2	672.6	658.9	650.0	644.8	643.7	638.7	20- 30	324.1	625.4	30.6, 30.6
40	525.2	544.7	558.5	542.6	532.9	527.2	526.4	515.6	30- 40	371.9	997.3	48.8, 48.8
50	400.1	416.4	434.4	418.3	408.4	401.9	400.9	386.5	40- 50	364.0	1361	66.6, 66.6
60	276.2	291.4	306.9	293.6	285.4	278.0	274.8	263.2	50- 60	309.4	1671	81.8, 81.8
70	160.9	173.7	183.0	176.5	169.7	161.5	155.2	152.1	60- 70	221.8	1892	92.6, 92.6
80	55.47	73.10	75.53	77.58	63.54	63.06	51.50	56.45	70- 80	120.2	2013	98.5, 98.5
90	0.6134	0.9692	4.061	1.138	0	0.0968	4.367	0.5877	80- 90	26.67	2039	99.8, 99.8
100	0.0943	0.0985	0.4007	0.0943	0	0.1031	0.6888	0.3700	90-100	0.4929	2040	99.8, 99.8
110	0	0.0968	0.4307	0.0943	0.1571	0.3658	1.572	0.4851	100-110	0.2961	2040	99.8, 99.8
120	0	0.0968	0.4607	0.0943	0.3151	0.4824	2.455	0.5564	110-120	0.3998	2041	99.9, 99.9
130	0	0.0968	0.4881	0.0943	0.4108	0.6283	2.925	0.5657	120-130	0.4445	2041	99.9, 99.9
140	0.0943	0.0968	0.7848	0.3223	0.7647	0.9372	3.238	0.8802	130-140	0.5115	2041	99.9, 99.9
150	0.2074	0.4663	1.521	0.6579	1.103	1.261	3.150	1.322	140-150	0.5783	2042	99.9, 99.9
160	0.5397	0.9032	1.643	1.247	1.650	1.792	2.833	1.603	150-160	0.6121	2043	100, 100
170	0.9707	1.639	3.725	1.697	1.738	1.792	2.552	1.603	160-170	0.4778	2043	100, 100
180	1.603	1.646	4.807	1.603	1.697	2.035	2.354	1.603	170-180	0.1963	2043	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1183.5 lm

%lum = 57.9%

%lamp = 57.9%

Conical surface Flux(120deg): 1670.7 lm

%lum = 81.8%

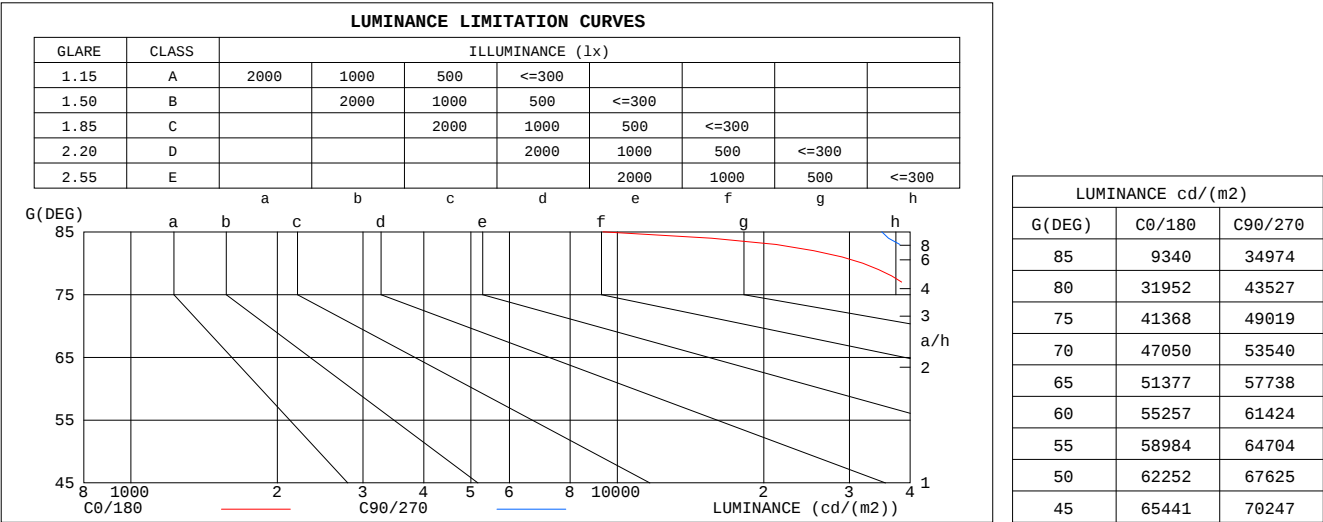
%lamp = 81.8%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:John Yao
Test Date:2025-12-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:55%
Test Distance:26.000m [K=1.5850]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME:ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	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:24.5DEG
Operators:John Yao
Test Date:2025-12-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:55%
Test Distance:26.000m [K=1.5850]
Remarks:

WEC AND CCEC

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm									
NAME:ASD-LWS30-39D28BK					TYPE:LED			WEIGHT:N/A	
SPEC.:5000K					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	.291	.166	.052	.284	.162	.052	.271	.155	.050	.259	.149	.048	.248	.143	.046	
2.0	.277	.152	.047	.271	.149	.046	.259	.144	.045	.248	.139	.044	.238	.135	.042	
3.0	.258	.137	.041	.252	.135	.041	.242	.131	.040	.233	.127	.039	.224	.124	.038	
4.0	.239	.124	.037	.234	.123	.036	.225	.119	.036	.217	.116	.035	.209	.114	.035	
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.202	.107	.032	.195	.104	.031	
6.0	.207	.104	.030	.203	.102	.029	.196	.100	.029	.189	.098	.029	.183	.096	.029	
7.0	.193	.095	.027	.189	.094	.027	.183	.093	.027	.177	.091	.026	.171	.089	.026	
8.0	.181	.088	.025	.178	.087	.025	.172	.086	.025	.166	.084	.024	.161	.083	.024	
9.0	.170	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.022	.152	.077	.022	
10.0	.160	.077	.021	.157	.076	.021	.153	.075	.021	.148	.074	.021	.144	.072	.021	

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	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.181	.158	.137	.154	.135	.118	.106	.093	.082	.061	.054	.048	.019	.017	.015	
2.0	.172	.134	.101	.147	.115	.088	.101	.080	.061	.058	.046	.036	.019	.015	.012	
3.0	.164	.116	.078	.140	.100	.067	.096	.069	.047	.056	.041	.028	.018	.013	.009	
4.0	.156	.102	.061	.134	.088	.053	.092	.062	.038	.053	.036	.022	.017	.012	.007	
5.0	.149	.092	.050	.128	.079	.043	.088	.055	.031	.051	.033	.018	.016	.011	.006	
6.0	.141	.083	.042	.122	.072	.036	.084	.051	.026	.049	.030	.015	.016	.010	.005	
7.0	.135	.076	.036	.116	.066	.031	.080	.046	.022	.047	.027	.013	.015	.009	.004	
8.0	.128	.071	.031	.111	.061	.027	.076	.043	.019	.044	.025	.011	.014	.008	.004	
9.0	.122	.066	.027	.105	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003	
10.0	.117	.061	.024	.101	.053	.021	.070	.037	.015	.041	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:John Yao
 Test Date:2025-12-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:55%
 Test Distance:26.000m [K=1.5850]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm											
NAME: ASD-LWS30-39D28BK						TYPE:LED			WEIGHT:N/A		
SPEC.:5000K						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	26.8	28.3	27.1	28.5	28.7	27.3	28.7	27.6	29.0	29.2	
	3H	28.1	29.5	28.4	29.7	29.9	28.6	30.0	28.9	30.2	
	4H	28.6	29.9	28.9	30.1	30.4	29.2	30.5	29.5	30.7	
	6H	28.9	30.1	29.2	30.4	30.7	29.6	30.8	29.9	31.1	
	8H	28.9	30.1	29.3	30.4	30.7	29.7	30.9	30.0	31.1	
	12H	28.9	30.0	29.3	30.3	30.6	29.8	30.9	30.1	31.2	
4H	2H	27.4	28.7	27.8	29.0	29.2	27.8	29.1	28.1	29.3	
	3H	28.9	30.0	29.3	30.3	30.6	29.3	30.5	29.7	30.7	
	4H	29.5	30.5	29.9	30.9	31.2	30.0	31.0	30.4	31.3	
	6H	29.9	30.8	30.3	31.2	31.5	30.5	31.4	30.9	31.8	
	8H	30.0	30.8	30.4	31.2	31.6	30.7	31.5	31.1	31.9	
	12H	30.0	30.8	30.4	31.1	31.6	30.8	31.6	31.2	32.0	
8H	4H	29.8	30.6	30.2	31.0	31.4	30.2	31.1	30.6	31.4	
	6H	30.3	31.0	30.8	31.4	31.9	30.9	31.6	31.3	32.0	
	8H	30.5	31.1	30.9	31.5	32.0	31.1	31.8	31.6	32.2	
	12H	30.5	31.0	31.0	31.5	31.9	31.3	31.9	31.8	32.3	
12H	4H	29.8	30.6	30.2	31.0	31.4	30.2	31.0	30.6	31.4	
	6H	30.4	31.0	30.8	31.4	31.9	30.9	31.5	31.4	32.0	
	8H	30.5	31.1	31.0	31.5	32.0	31.2	31.7	31.7	32.2	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.3					

CIE Pub.117, 2043 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.5$)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:John Yao
Test Date:2025-12-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:55%
Test Distance:26.000m [K=1.5850]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME:ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

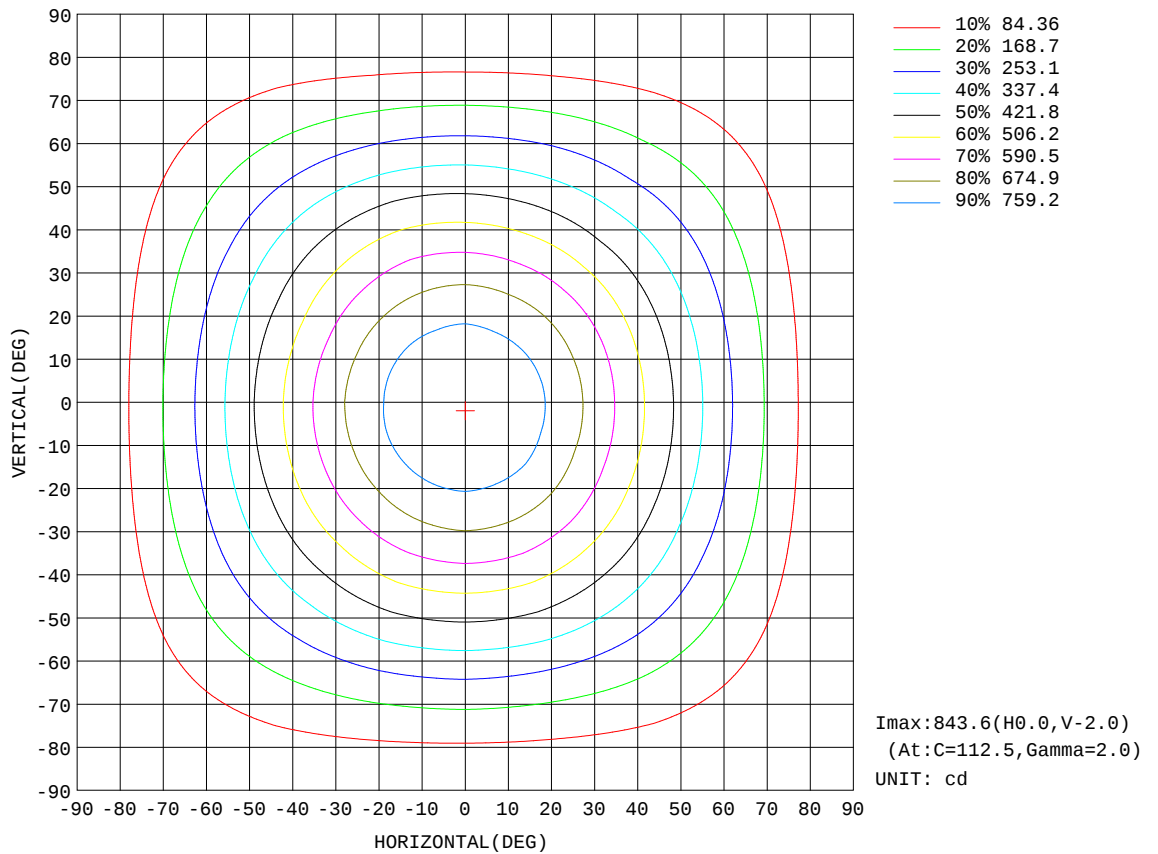
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	49	42	58	48	42	36
0.80	70	59	52	69	58	52	67	58	51	45
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	73	85	78	72	65
2.00	96	88	82	95	87	82	91	85	80	72
2.50	100	93	87	98	91	86	94	89	84	76
3.00	103	97	92	101	95	91	97	92	88	80
4.00	107	102	97	105	100	96	101	97	93	85
5.00	109	105	101	107	103	99	102	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: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:John Yao
 Test Date:2025-12-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:55%
 Test Distance:26.000m [K=1.5850]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME:ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

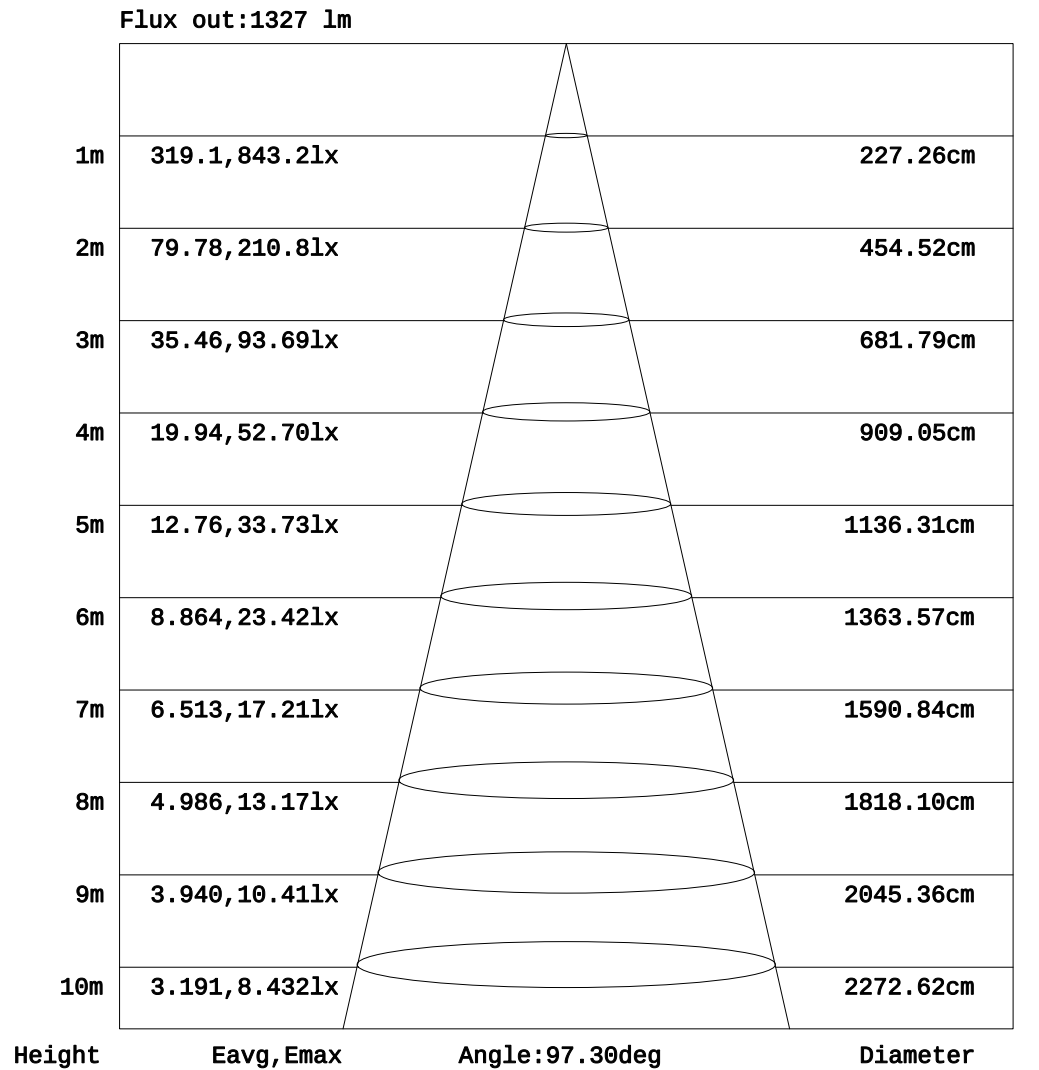


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.5DEG
 Operators: John Yao
 Test Date: 2025-12-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity: 55%
 Test Distance: 26.000m [K=1.5850]
 Remarks:

AAI Figure

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME: ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.: 5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

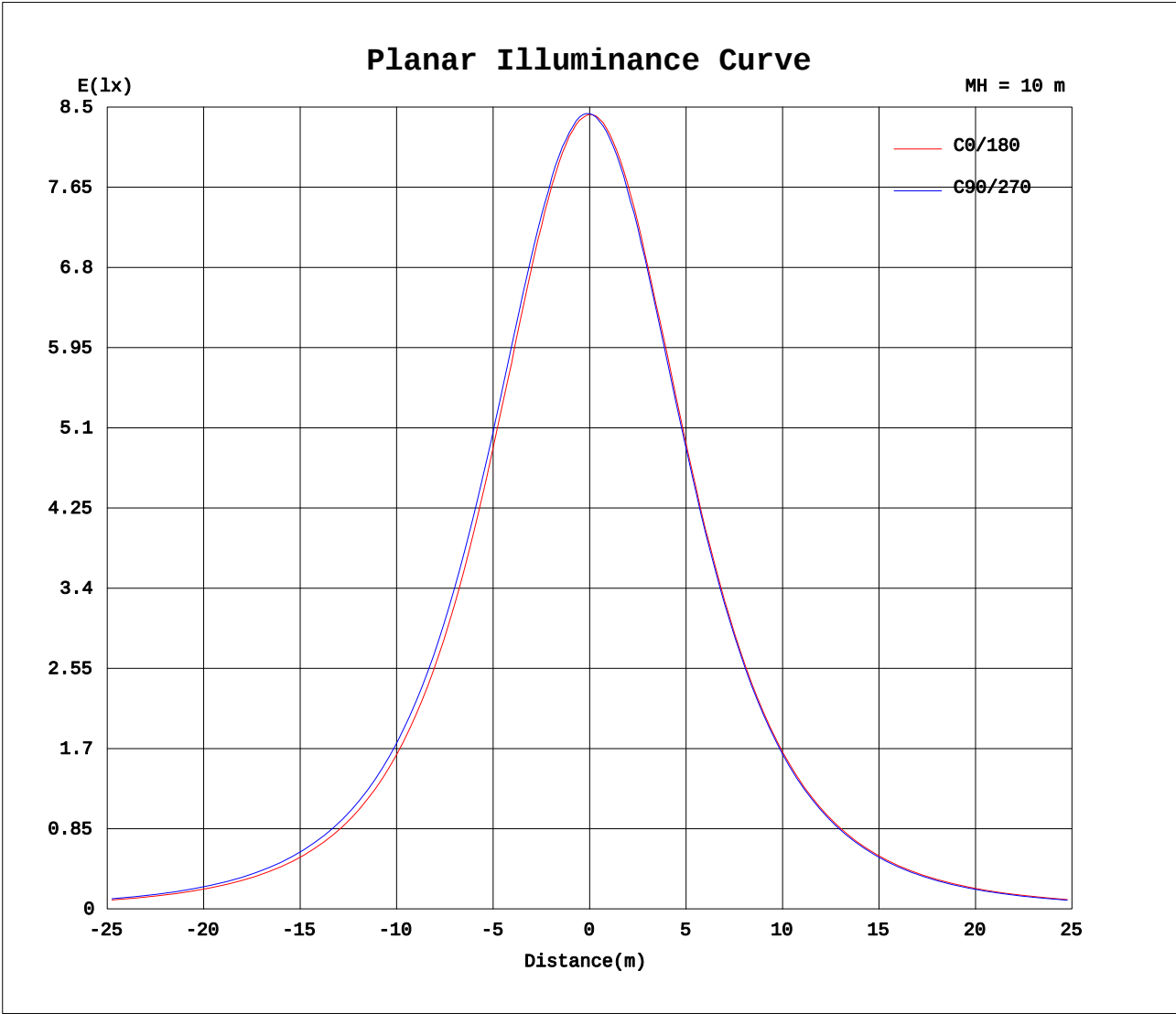


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:John Yao
 Test Date:2025-12-23

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:55%
 Test Distance:26.000m [K=1.5850]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Temperature:24.5DEG	Humidity:55%
Operators:John Yao	Test Distance:26.000m [K=1.5850]
Test Date:2025-12-23	Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.26V I:0.2298A P:27.230W PF:0.9853 Freq:60.01Hz Lamp Flux:2043.33x1 lm		
NAME:ASD-LWS30-39D28BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	842	842	842	842	842	842	842	842	842	842	842	842	842	842	842	842			
5	834	837	838	838	838	836	838	837	837	836	834	833	833	831	834	831			
10	816	818	823	820	825	824	822	821	819	817	815	814	813	809	812	813			
15	787	789	796	796	799	798	794	793	791	788	784	783	782	779	780	783			
20	747	748	758	762	764	763	758	754	752	747	745	744	744	741	740	743			
25	699	702	713	717	721	719	712	708	705	699	698	698	697	695	694	694			
30	645	649	661	669	673	668	659	654	650	644	645	647	644	641	639	640			
35	586	591	605	616	618	614	603	597	594	585	587	593	587	582	579	582			
40	525	530	545	556	558	557	543	537	533	524	527	535	526	521	516	520			
45	463	468	480	495	496	496	481	475	471	462	465	472	464	459	451	456			
50	400	406	416	431	434	433	418	412	408	399	402	407	401	394	387	393			
55	338	342	354	368	371	369	356	350	346	337	340	341	337	332	324	331			
60	276	281	291	302	307	305	294	289	285	277	278	278	275	271	263	271			
65	217	222	231	237	244	241	233	230	226	219	218	216	214	213	206	213			
70	161	166	174	178	183	181	177	174	170	163	161	158	155	153	152	157			
75	107	114	122	123	127	126	125	121	115	111	110	102	101	99.1	102	105			
80	55.5	63.2	73.1	74.5	75.5	77.0	77.6	70.4	63.5	61.2	63.1	56.9	51.5	55.8	56.4	53.9			
85	8.14	14.7	26.8	34.6	30.5	36.5	31.4	21.4	15.1	14.0	17.7	20.5	14.1	18.6	12.1	8.08			
90	0.61	0.67	0.97	1.55	4.06	2.07	1.14	0.76	0.00	0.09	0.10	0.68	4.37	0.29	0.59	0.00			
95	0.26	0.31	0.49	0.39	0.40	0.48	0.38	0.38	0.00	0.09	0.10	0.44	1.60	0.29	0.48	0.00			
100	0.09	0.13	0.10	0.20	0.40	0.19	0.09	0.19	0.00	0.09	0.10	0.48	0.69	0.36	0.37	0.00			
105	0.00	0.09	0.10	0.20	0.42	0.19	0.09	0.00	0.09	0.16	0.31	0.59	1.18	0.48	0.40	0.21			
110	0.00	0.00	0.10	0.20	0.43	0.19	0.09	0.00	0.16	0.30	0.37	0.78	1.57	0.63	0.49	0.29			
115	0.00	0.00	0.10	0.20	0.45	0.19	0.09	0.00	0.25	0.36	0.42	0.89	1.96	0.64	0.55	0.36			
120	0.00	0.00	0.10	0.20	0.46	0.19	0.09	0.00	0.32	0.39	0.48	0.98	2.45	0.65	0.56	0.41			
125	0.00	0.00	0.10	0.20	0.48	0.19	0.09	0.00	0.38	0.43	0.57	1.07	2.59	0.66	0.56	0.45			
130	0.00	0.00	0.10	0.20	0.49	0.19	0.09	0.00	0.41	0.46	0.63	1.56	2.93	0.93	0.57	0.53			
135	0.00	0.00	0.10	0.20	0.49	0.19	0.28	0.00	0.57	0.59	0.77	1.61	3.35	0.96	0.66	0.63			
140	0.09	0.00	0.10	0.50	0.78	0.47	0.32	0.09	0.76	0.78	0.94	1.66	3.24	1.24	0.88	0.78			
145	0.09	0.09	0.29	0.69	1.47	0.55	0.37	0.09	0.96	0.84	1.07	1.71	3.20	1.33	1.04	0.92			
150	0.21	0.32	0.47	0.88	1.52	0.76	0.66	0.21	1.10	1.01	1.26	1.75	3.15	1.90	1.32	1.13			
155	0.42	0.66	0.87	1.27	1.58	1.24	1.03	0.38	1.47	1.34	1.56	1.80	2.97	2.04	1.60	1.51			
160	0.54	0.82	0.90	1.38	1.64	1.61	1.25	0.49	1.65	1.52	1.79	1.85	2.83	2.95	1.60	1.53			
165	0.66	0.98	1.06	1.51	2.54	1.62	1.46	0.74	1.68	1.66	1.79	1.74	2.69	4.19	1.60	1.56			
170	0.97	1.23	1.64	1.95	3.72	1.62	1.70	1.13	1.74	1.71	1.79	1.71	2.55	4.44	1.60	1.58			
175	1.51	1.62	1.68	2.25	4.57	1.62	1.63	1.61	1.78	1.71	1.79	1.67	2.41	4.53	1.60	1.60			
180	1.60	1.61	1.65	2.25	4.81	1.62	1.60	1.70	1.70	1.61	2.04	1.66	2.35	4.56	1.60	1.61			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:John Yao
Test Date:2025-12-23

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:55%
Test Distance:26.000m [K=1.5850]
Remarks: