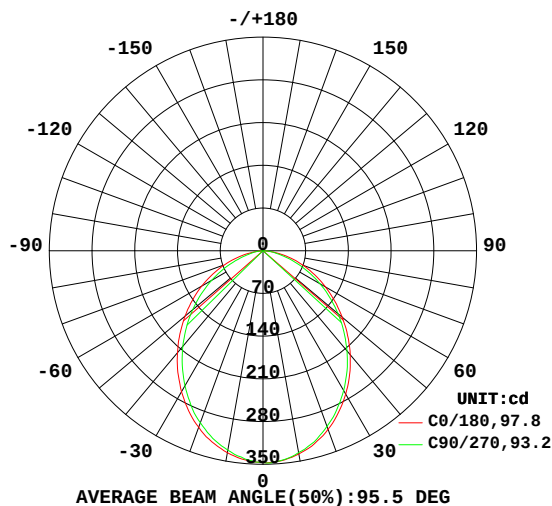


LUMINAIRE PHOTOMETRIC TEST REPORT

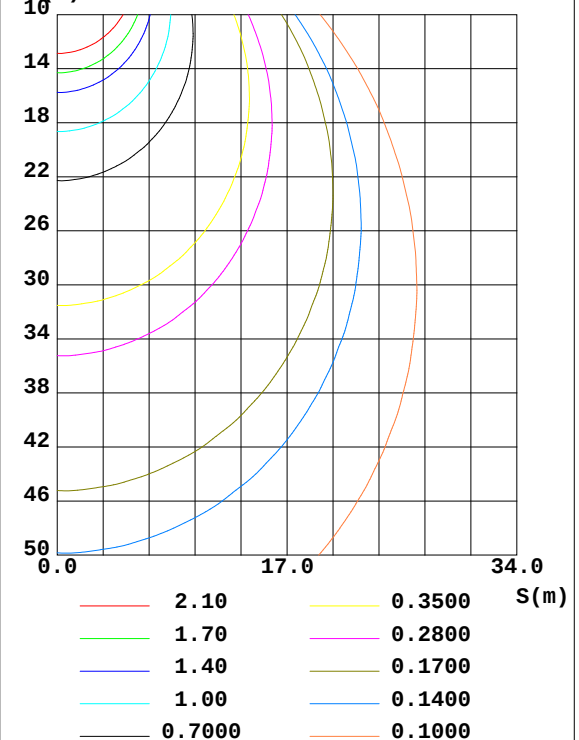
Test:U:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 63.18 lm/W
MODEL	ASD-LWS30-16D12BK	I _{max} (cd)	348.0	S/MH(C0/180)	1.15	
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.11	
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	800.29	η UP, DN(C0-180)	0.0, 51.0	
NOMINAL FLUX(lm)	800.289	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 48.9	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	120	η down(%)	100.0	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	338.1	337.3	335.9	334.3	336.2	332.8	331.8	334.2	0- 10	32.54	32.54	4.07,4.07
20	311.4	308.1	306.5	304.0	307.8	300.7	300.1	304.1	10- 20	90.73	123.3	15.4,15.4
30	271.2	267.4	264.3	260.4	267.0	256.7	255.8	261.0	20- 30	131.3	254.6	31.8,31.8
40	222.4	217.8	214.3	210.6	218.1	206.3	204.6	209.7	30- 40	149.0	403.6	50.4,50.4
50	169.6	165.6	160.5	158.2	166.7	152.6	150.4	156.3	40- 50	143.8	547.4	68.4,68.4
60	117.9	110.6	107.3	106.5	116.2	101.8	97.29	103.5	50- 60	119.5	666.9	83.3,83.3
70	70.06	62.97	57.58	60.40	66.80	56.13	48.17	57.39	60- 70	82.40	749.3	93.6,93.6
80	26.46	27.14	20.10	24.95	22.79	20.46	15.00	21.85	70- 80	41.76	791.0	98.8,98.8
90	0.1908	0.6790	1.284	0.4705	0	0	0	0	80- 90	8.913	800.0	100,100
100	0	0.0939	0	0	0	0	0	0	90-100	0.0936	800.1	100,100
110	0	0	0	0	0.0929	0	0.0969	0	100-110	0.0060	800.1	100,100
120	0	0	0	0	0	0.0953	0.0969	0.0936	110-120	0.0297	800.1	100,100
130	0	0	0	0	0.0946	0.0953	0.0969	0.1687	120-130	0.0464	800.1	100,100
140	0	0	0	0	0.0946	0.0953	0.0969	0.1902	130-140	0.0566	800.2	100,100
150	0	0	0.0010	0	0.0946	0.0953	0.0019	0.1880	140-150	0.0438	800.2	100,100
160	0.0946	0	0.0969	0	0.0946	0.0953	0	0.1226	150-160	0.0280	800.3	100,100
170	0.2832	0.0953	0.0969	0	0.0946	0.0953	0	0.0936	160-170	0.0194	800.3	100,100
180	0.1893	0.0953	0.0969	0	0.0946	0.0953	0	0.0936	170-180	0.0082	800.3	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT: lm		

Conical surface Flux(90deg): 477.5 lm

%lum = 59.7%

%lamp = 59.7%

Conical surface Flux(120deg): 666.89 lm

%lum = 83.3%

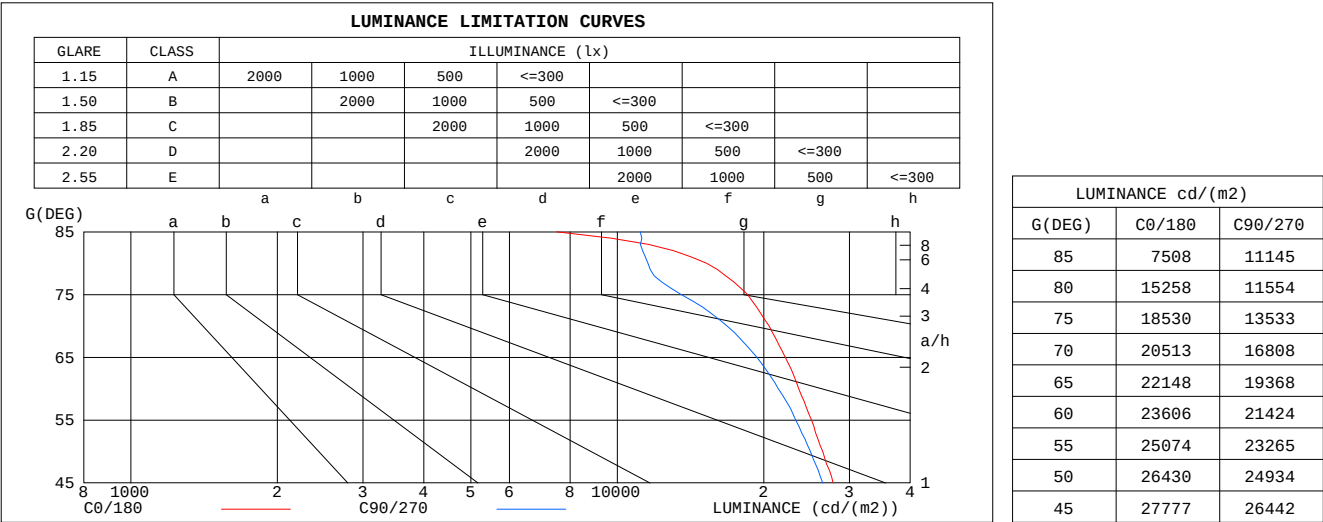
%lamp = 83.3%

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:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	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:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm								
NAME:ASD-LWS30-16D12BK				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	.284	.161	.051	.277	.158	.050	.264	.151	.048	.251	.145	.047	.240	.139	.045	
2.0	.271	.148	.046	.265	.146	.045	.253	.141	.044	.243	.136	.043	.233	.132	.041	
3.0	.253	.135	.040	.248	.133	.040	.238	.129	.039	.228	.125	.038	.219	.121	.038	
4.0	.235	.122	.036	.231	.121	.036	.222	.118	.035	.213	.115	.035	.205	.112	.034	
5.0	.219	.112	.032	.215	.110	.032	.207	.108	.032	.199	.105	.031	.192	.103	.031	
6.0	.204	.102	.029	.200	.101	.029	.193	.099	.029	.187	.097	.028	.180	.095	.028	
7.0	.191	.094	.027	.187	.093	.027	.181	.092	.026	.175	.090	.026	.169	.088	.026	
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.083	.024	.160	.082	.024	
9.0	.168	.081	.023	.165	.081	.023	.160	.079	.022	.155	.078	.022	.151	.077	.022	
10.0	.158	.076	.021	.156	.075	.021	.151	.074	.021	.147	.073	.021	.143	.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	.191	.191	.191	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.179	.157	.137	.153	.134	.118	.105	.093	.081	.060	.054	.047	.019	.017	.015	
2.0	.170	.132	.101	.145	.114	.087	.100	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.162	.115	.077	.138	.099	.067	.095	.069	.047	.055	.040	.028	.018	.013	.009	
4.0	.154	.101	.061	.132	.087	.053	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.043	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.041	.120	.071	.036	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.035	.114	.065	.030	.079	.046	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.030	.109	.060	.026	.075	.042	.019	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.023	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.037	.014	.040	.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:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm											
NAME:ASD-LWS30-16D12BK						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	23.9	25.4	24.2	25.6	25.8	23.6	25.1	23.9	25.3	25.5	
	3H	25.3	26.6	25.6	26.8	27.1	24.7	26.1	25.0	26.3	26.5
	4H	25.8	27.1	26.1	27.3	27.6	25.1	26.3	25.4	26.6	26.8
	6H	26.1	27.3	26.5	27.6	27.9	25.3	26.5	25.6	26.7	27.0
	8H	26.2	27.4	26.6	27.7	27.9	25.3	26.5	25.7	26.8	27.1
	12H	26.2	27.3	26.6	27.6	27.9	25.4	26.5	25.7	26.8	27.1
4H	2H	24.4	25.7	24.7	25.9	26.2	24.2	25.4	24.5	25.7	25.9
	3H	25.9	27.0	26.3	27.3	27.6	25.4	26.5	25.8	26.8	27.1
	4H	26.6	27.6	27.0	27.9	28.2	25.9	26.9	26.2	27.2	27.5
	6H	27.1	28.0	27.5	28.3	28.7	26.2	27.0	26.6	27.4	27.8
	8H	27.2	28.0	27.6	28.4	28.8	26.3	27.1	26.7	27.5	27.8
	12H	27.2	28.0	27.7	28.4	28.8	26.3	27.1	26.8	27.5	27.9
8H	4H	26.8	27.6	27.2	28.0	28.3	26.1	26.9	26.5	27.3	27.7
	6H	27.4	28.1	27.8	28.5	28.9	26.5	27.2	27.0	27.6	28.1
	8H	27.6	28.2	28.1	28.6	29.1	26.7	27.3	27.2	27.7	28.2
	12H	27.7	28.2	28.2	28.6	29.1	26.9	27.4	27.3	27.8	28.3
12H	4H	26.8	27.5	27.2	27.9	28.3	26.1	26.9	26.6	27.3	27.7
	6H	27.4	28.0	27.9	28.5	28.9	26.6	27.2	27.1	27.6	28.1
	8H	27.7	28.2	28.1	28.6	29.1	26.8	27.3	27.3	27.8	28.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.4					
2.0H	+ 0.3 / - 0.2					+ 0.3 / - 0.4					

CIE Pub.117, 800.3 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -0.8)

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:

UTILIZATION FACTORS TABLE

Test:U:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

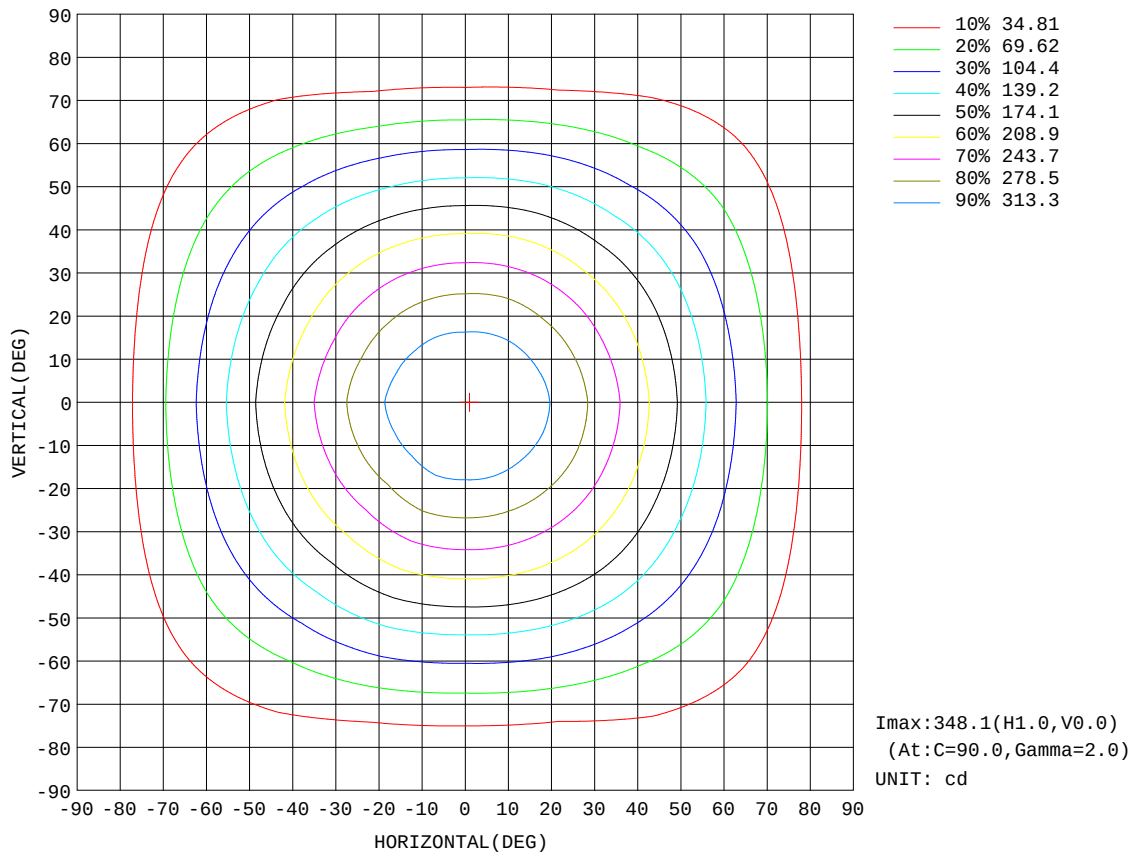
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	50	43	59	49	43	37
0.80	71	60	53	70	60	53	68	59	52	46
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	76	70	85	76	69	82	74	68	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	108	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
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:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

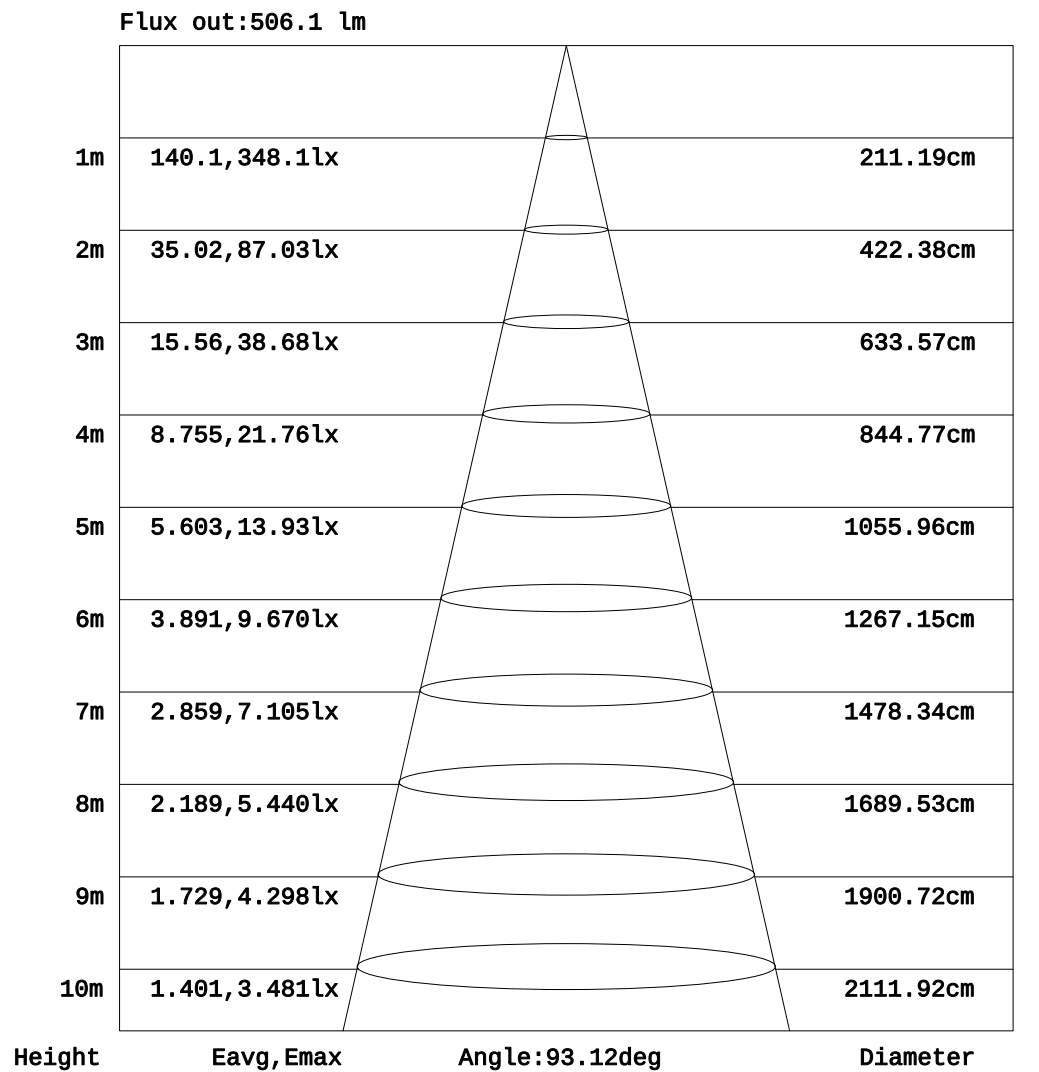


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.5DEG
Operators: John Yao
Test Date: 2025-12-23

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:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

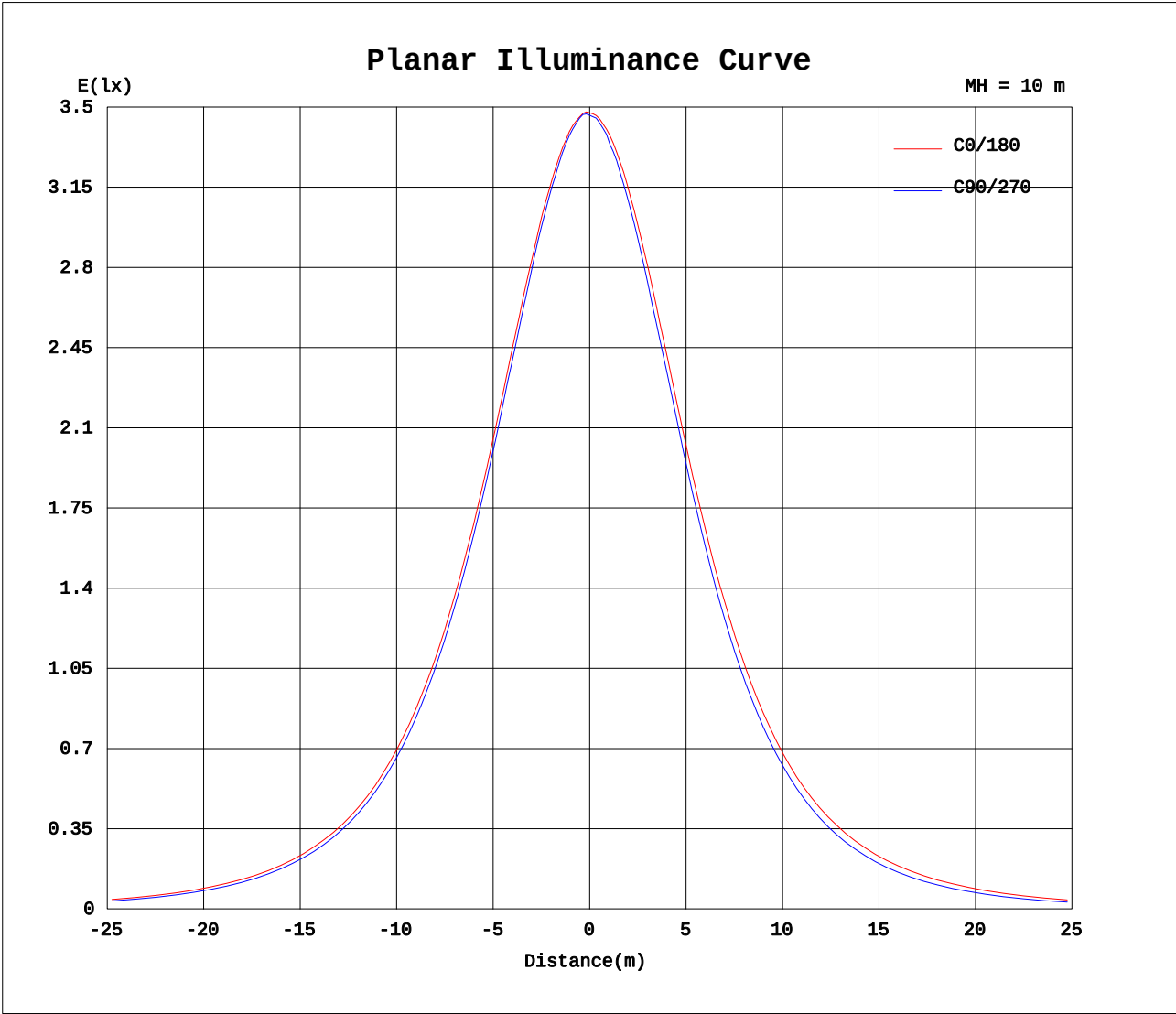


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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
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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.23V I:0.1074A P:12.666W PF:0.9811 Freq:60.01Hz Lamp Flux:800.289x1 lm		
NAME:ASD-LWS30-16D12BK	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	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347	347			
5	345	346	345	345	345	344	343	344	344	343	342	341	343	341	344	344			
10	338	339	337	336	336	335	334	337	336	334	333	333	332	332	334	336			
15	327	327	324	324	324	322	321	323	324	320	318	319	318	319	321	324			
20	311	311	308	307	307	305	304	306	308	303	301	301	300	302	304	309			
25	293	292	288	287	287	286	283	286	289	283	280	280	280	281	284	289			
30	271	269	267	266	264	264	260	264	267	260	257	256	256	258	261	266			
35	248	245	243	241	240	240	236	240	243	236	232	231	231	233	236	242			
40	222	220	218	216	214	214	211	214	218	210	206	204	205	207	210	216			
45	196	194	192	189	187	188	184	189	193	184	179	178	177	180	183	190			
50	170	166	166	163	161	161	158	163	167	158	153	151	150	154	156	164			
55	144	139	138	136	134	135	132	136	141	133	127	124	124	127	129	137			
60	118	114	111	110	107	109	107	111	116	108	102	98.3	97.3	101	103	112			
65	93.5	90.1	84.7	84.2	82.0	83.0	82.2	87.1	91.0	84.7	77.7	73.1	72.1	75.4	78.9	88.5			
70	70.1	68.2	63.0	59.0	57.6	58.6	60.4	64.9	66.8	62.2	56.1	49.3	48.2	51.2	57.4	66.2			
75	47.9	47.5	44.0	35.4	35.1	36.1	41.6	43.9	43.9	41.2	37.4	28.5	27.2	29.3	38.5	44.9			
80	26.5	27.8	27.1	20.7	20.1	20.6	25.0	24.3	22.8	21.5	20.5	15.3	15.0	16.0	21.8	24.7			
85	6.53	8.93	11.4	9.74	9.73	9.32	8.96	5.82	3.37	3.09	4.24	4.54	4.98	4.94	5.89	5.71			
90	0.19	0.59	0.68	0.77	1.28	0.69	0.47	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.09	0.19	0.29	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.10	0.19	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.10	0.10	0.19	0.10			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.10	0.10	0.10	0.10	0.09	0.10			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.10	0.10	0.10	0.10	0.09	0.10			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.10	0.32	0.10	0.10	0.17	0.10			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	0.10	0.32	0.10	0.10	0.26	0.10			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	0.10	0.27	0.10	0.10	0.19	0.10			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	0.10	0.23	0.10	0.10	0.19	0.10			
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	0.10	0.26	0.00	0.10	0.19	0.10			
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.19	0.10	0.10	0.00	0.10	0.16	0.10			
160	0.09	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.09	0.19	0.10	0.10	0.00	0.10	0.12	0.10			
165	0.09	0.00	0.10	0.00	0.10	0.00	0.00	0.00	0.09	0.19	0.10	0.10	0.00	0.10	0.09	0.10			
170	0.28	0.09	0.10	0.00	0.10	0.10	0.00	0.10	0.09	0.19	0.10	0.10	0.00	0.10	0.09	0.00			
175	0.22	0.09	0.10	0.00	0.10	0.10	0.00	0.10	0.09	0.19	0.10	0.10	0.00	0.10	0.09	0.00			
180	0.19	0.09	0.10	0.00	0.10	0.10	0.00	0.10	0.09	0.19	0.10	0.10	0.00	0.10	0.09	0.00			

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: