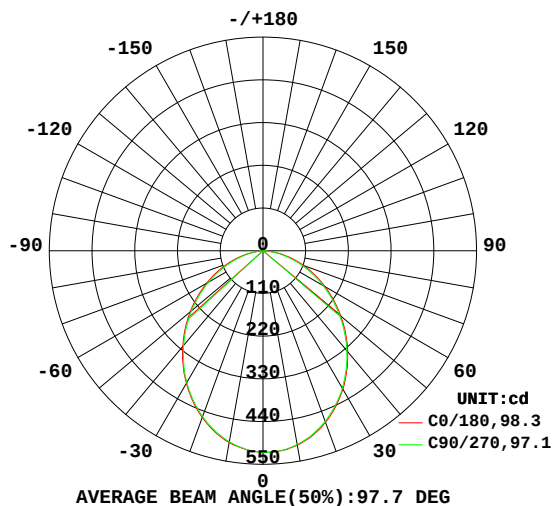


LUMINAIRE PHOTOMETRIC TEST REPORT

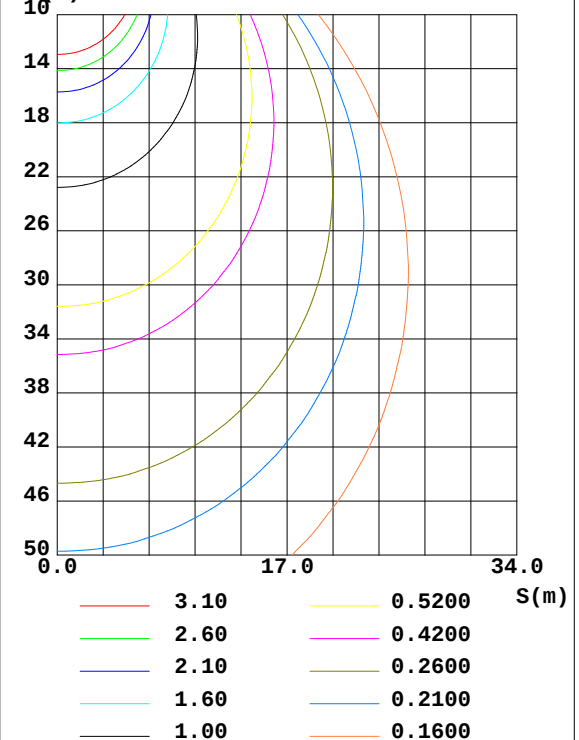
Test:U:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME: ASD-LWS30-24D18BK	TYPE: LED	WEIGHT: N/A
SPEC.: 5000K	DIM.:	SERIAL No.: N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle: N/A

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 71.73 lm/W
MODEL	ASD-LWS30-24D18BK	I _{max} (cd)	520.6	S/MH(C0/180)	1.15	
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.14	
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	1243.0	η UP, DN(C0-180)	0.0, 51.3	
NOMINAL FLUX(lm)	1243.05	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1, 48.6	
LAMPS INSIDE	1	η up(%)	0.1	CIBSE SHR NOM	1.25	
TEST VOLTAGE(V)	120	η down(%)	99.9	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	508.5	507.6	506.4	501.8	501.0	499.3	499.6	504.9	0- 10	48.78	48.78	3.92, 3.92
20	470.2	469.6	467.4	458.2	457.1	451.4	454.6	464.1	10- 20	136.6	185.4	14.9, 14.9
30	411.5	409.5	408.6	395.8	394.0	386.7	391.9	403.2	20- 30	199.1	384.5	30.9, 30.9
40	339.4	338.2	335.8	322.7	321.4	312.1	318.0	326.7	30- 40	227.8	612.3	49.3, 49.3
50	261.6	260.0	257.2	247.1	245.1	235.5	240.0	246.7	40- 50	222.3	834.6	67.1, 67.1
60	183.9	181.9	178.1	170.4	167.9	159.3	161.5	168.0	50- 60	187.9	1023	82.3, 82.3
70	111.7	109.5	103.2	99.05	96.34	88.92	87.78	97.21	60- 70	133.4	1156	93, 93
80	44.80	48.62	37.31	39.52	30.96	31.70	25.32	39.33	70- 80	70.75	1227	98.7, 98.7
90	0.4799	0.8126	2.196	0.4733	0	0	0	0	80- 90	15.30	1242	99.9, 99.9
100	0.0943	0	0	0	0	0.0023	0	0	90-100	0.1388	1242	99.9, 99.9
110	0	0	0	0	0.0951	0.1946	0.2941	0.0943	100-110	0.0375	1242	99.9, 99.9
120	0	0	0	0	0.1537	0.3227	0.4288	0.1524	110-120	0.0950	1242	99.9, 99.9
130	0	0	0.0971	0	0.2866	0.3826	0.7766	0.2910	120-130	0.1367	1242	99.9, 99.9
140	0	0	0.0971	0	0.3806	0.3826	0.9708	0.4717	130-140	0.1838	1243	100, 100
150	0	0.0957	0.3305	0	0.3806	0.3826	0.9708	0.4717	140-150	0.1816	1243	100, 100
160	0	0.0957	0.5287	0.0943	0.3806	0.3826	0.9708	0.4717	150-160	0.1542	1243	100, 100
170	0.0951	0.3821	1.248	0.2505	0.3806	0.3826	0.9708	0.4717	160-170	0.1214	1243	100, 100
180	0.3806	0.4783	1.650	0.3774	0.3806	0.3826	0.9708	0.4717	170-180	0.0554	1243	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 726.07 lm

%lum = 58.4%

%lamp = 58.4%

Conical surface Flux(120deg): 1022.5 lm

%lum = 82.3%

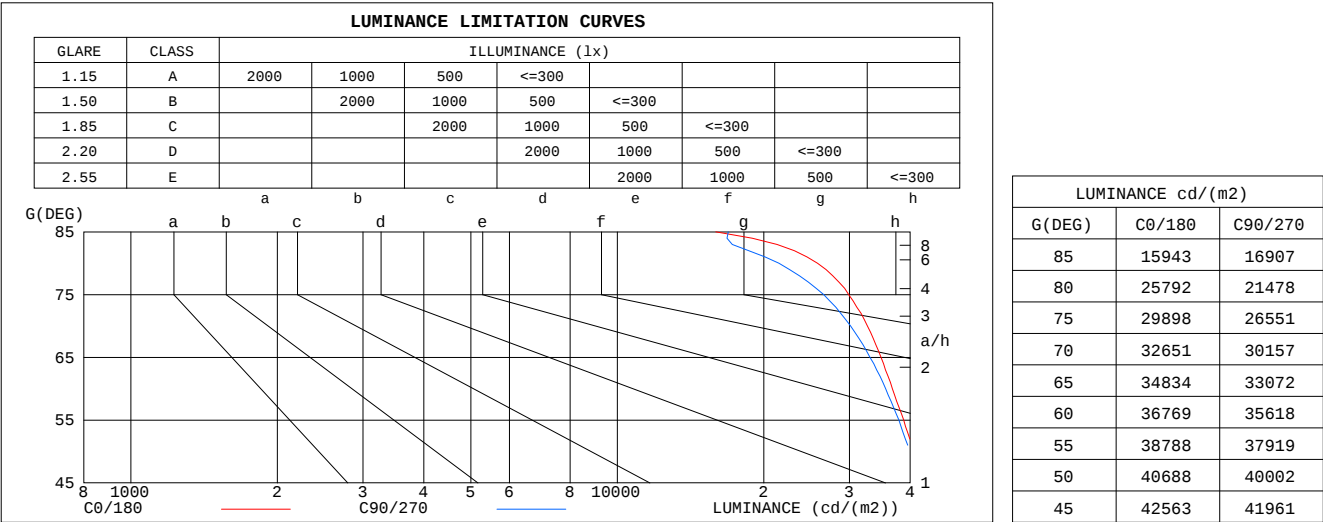
%lamp = 82.3%

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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME:ASD-LWS30-24D18BK	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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm								
NAME:ASD-LWS30-24D18BK				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	.289	.164	.052	.282	.161	.051	.269	.154	.049	.257	.148	.048	.246	.142	.046	
2.0	.275	.151	.046	.269	.148	.046	.257	.143	.044	.247	.138	.043	.237	.134	.042	
3.0	.257	.137	.041	.251	.135	.040	.241	.131	.040	.231	.127	.039	.223	.123	.038	
4.0	.238	.124	.036	.233	.122	.036	.224	.119	.036	.216	.116	.035	.208	.113	.034	
5.0	.221	.113	.033	.217	.111	.032	.209	.109	.032	.201	.106	.032	.194	.104	.031	
6.0	.206	.103	.030	.202	.102	.029	.195	.100	.029	.188	.098	.029	.182	.096	.028	
7.0	.192	.095	.027	.189	.094	.027	.183	.092	.027	.177	.091	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.171	.086	.024	.166	.084	.024	.161	.083	.024	
9.0	.169	.082	.023	.166	.081	.023	.161	.080	.023	.157	.078	.022	.152	.077	.022	
10.0	.159	.076	.021	.157	.076	.021	.152	.075	.021	.148	.073	.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	.191	.191	.191	.163	.163	.163	.112	.112	.112	.064	.064	.064	.020	.020	.020	
1.0	.180	.157	.137	.154	.135	.118	.105	.093	.081	.060	.054	.047	.019	.017	.015	
2.0	.171	.133	.101	.146	.114	.087	.100	.079	.061	.058	.046	.036	.019	.015	.012	
3.0	.163	.115	.077	.139	.099	.067	.096	.069	.047	.055	.040	.028	.018	.013	.009	
4.0	.155	.101	.061	.133	.088	.053	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.091	.049	.127	.079	.043	.087	.055	.030	.051	.032	.018	.016	.011	.006	
6.0	.140	.082	.041	.121	.071	.036	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.076	.035	.115	.065	.030	.079	.046	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.070	.030	.110	.060	.026	.076	.042	.019	.044	.025	.011	.014	.008	.004	
9.0	.121	.065	.026	.105	.056	.023	.072	.040	.016	.042	.023	.010	.014	.008	.003	
10.0	.116	.060	.024	.100	.053	.021	.069	.037	.015	.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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm										
NAME:ASD-LWS30-24D18BK					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	25.6	27.0	25.8	27.2	27.4	25.5	27.0	25.8	27.2	27.4
3H	27.0	28.3	27.3	28.5	28.8	26.8	28.1	27.1	28.4	28.6
4H	27.5	28.8	27.8	29.0	29.3	27.3	28.5	27.6	28.8	29.0
6H	27.9	29.1	28.2	29.4	29.7	27.5	28.8	27.9	29.0	29.3
8H	28.0	29.2	28.3	29.4	29.7	27.6	28.8	27.9	29.1	29.3
12H	28.0	29.2	28.4	29.4	29.7	27.6	28.8	28.0	29.0	29.3
4H 2H	26.1	27.4	26.4	27.6	27.9	26.1	27.3	26.4	27.6	27.8
3H	27.7	28.8	28.0	29.1	29.4	27.5	28.7	27.9	28.9	29.3
4H	28.4	29.4	28.8	29.7	30.1	28.1	29.1	28.5	29.5	29.8
6H	28.9	29.8	29.3	30.2	30.5	28.5	29.4	28.9	29.8	30.2
8H	29.1	29.9	29.5	30.3	30.7	28.6	29.5	29.1	29.8	30.2
12H	29.1	29.9	29.6	30.3	30.7	28.7	29.5	29.1	29.9	30.3
8H 4H	28.6	29.5	29.0	29.8	30.2	28.4	29.2	28.8	29.6	30.0
6H	29.3	30.0	29.8	30.4	30.8	28.9	29.6	29.4	30.0	30.5
8H	29.5	30.2	30.0	30.6	31.0	29.1	29.7	29.6	30.2	30.6
12H	29.7	30.2	30.2	30.7	31.1	29.3	29.8	29.7	30.2	30.7
12H 4H	28.6	29.4	29.1	29.8	30.2	28.4	29.2	28.8	29.6	30.0
6H	29.4	30.0	29.8	30.4	30.9	29.0	29.6	29.5	30.1	30.5
8H	29.6	30.2	30.1	30.6	31.1	29.2	29.8	29.7	30.2	30.7
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 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1243 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 0.8$)

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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME:ASD-LWS30-24D18BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

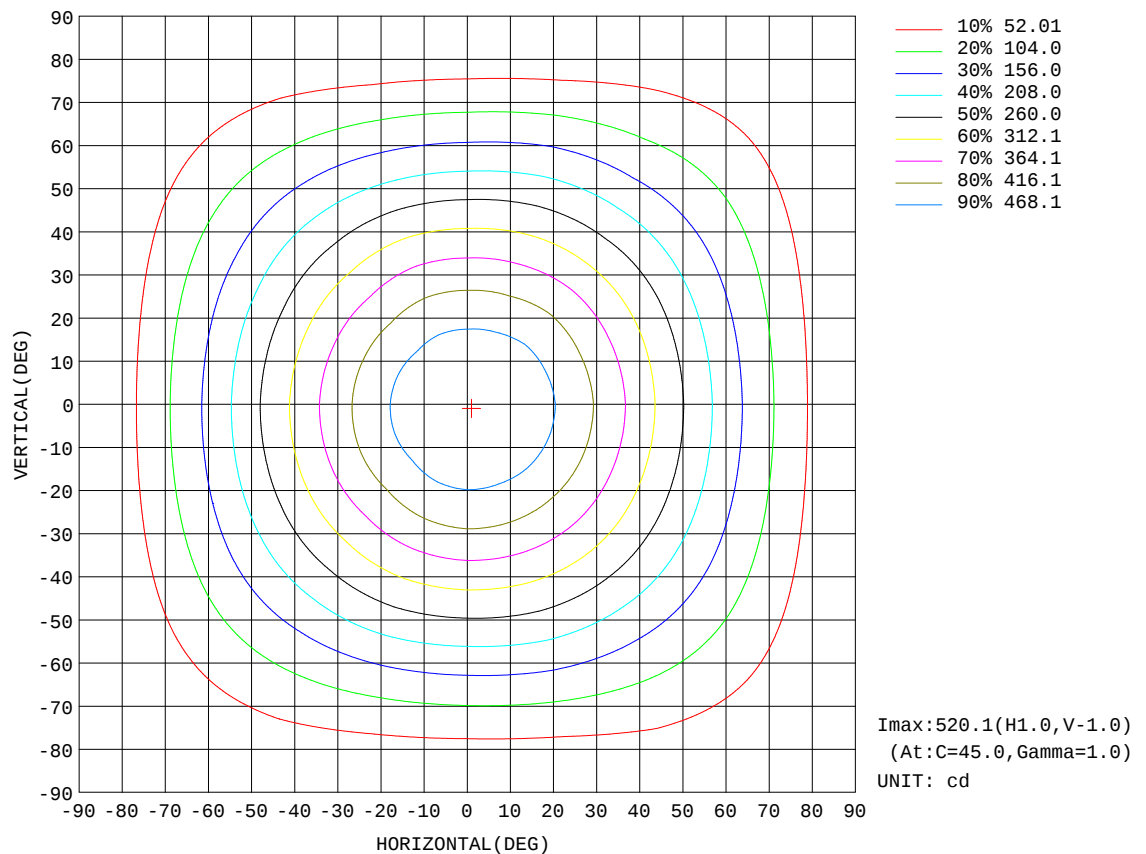
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	60	49	42	59	49	42	58	48	42	36
0.80	70	59	52	69	59	52	67	58	52	45
1.00	78	68	61	77	67	61	75	69	60	53
1.25	85	75	69	84	75	68	81	73	68	61
1.50	90	81	74	89	80	74	86	78	73	66
2.00	97	89	83	95	87	82	91	85	80	73
2.50	100	93	87	98	92	87	95	89	85	77
3.00	103	97	92	101	96	91	97	93	89	80
4.00	107	102	98	105	100	96	101	97	94	85
5.00	109	105	101	107	103	100	103	99	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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME: ASD-LWS30-24D18BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.: ASD Lighting Corp	SUR.:	Shielding Angle:N/A

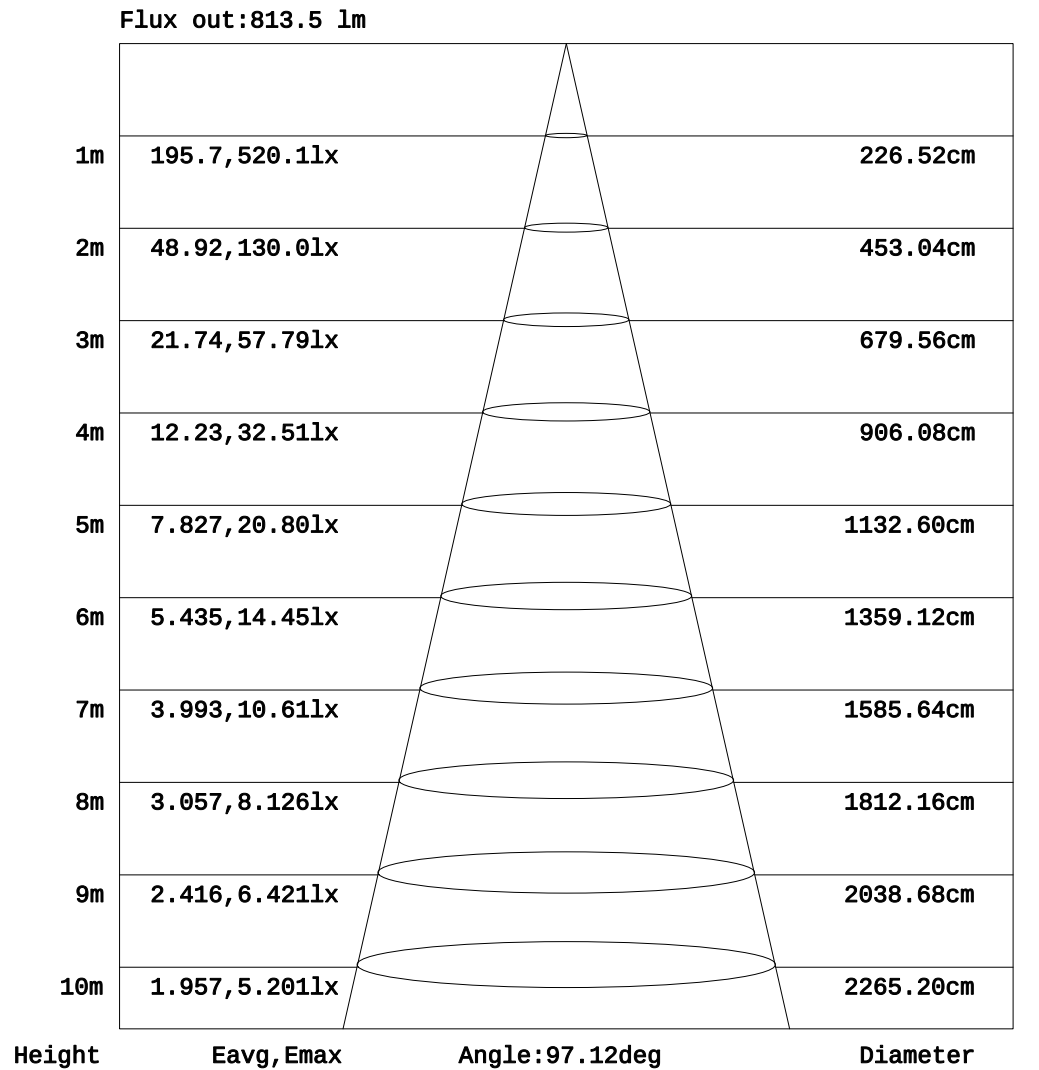


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:John Yao
Test Date:2025-12-23

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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME:ASD-LWS30-24D18BK	TYPE:LED	WEIGHT:N/A
SPEC.:5000K	DIM.:	SERIAL No.:N/A
MFR.:ASD Lighting Corp	SUR.:	Shielding Angle:N/A

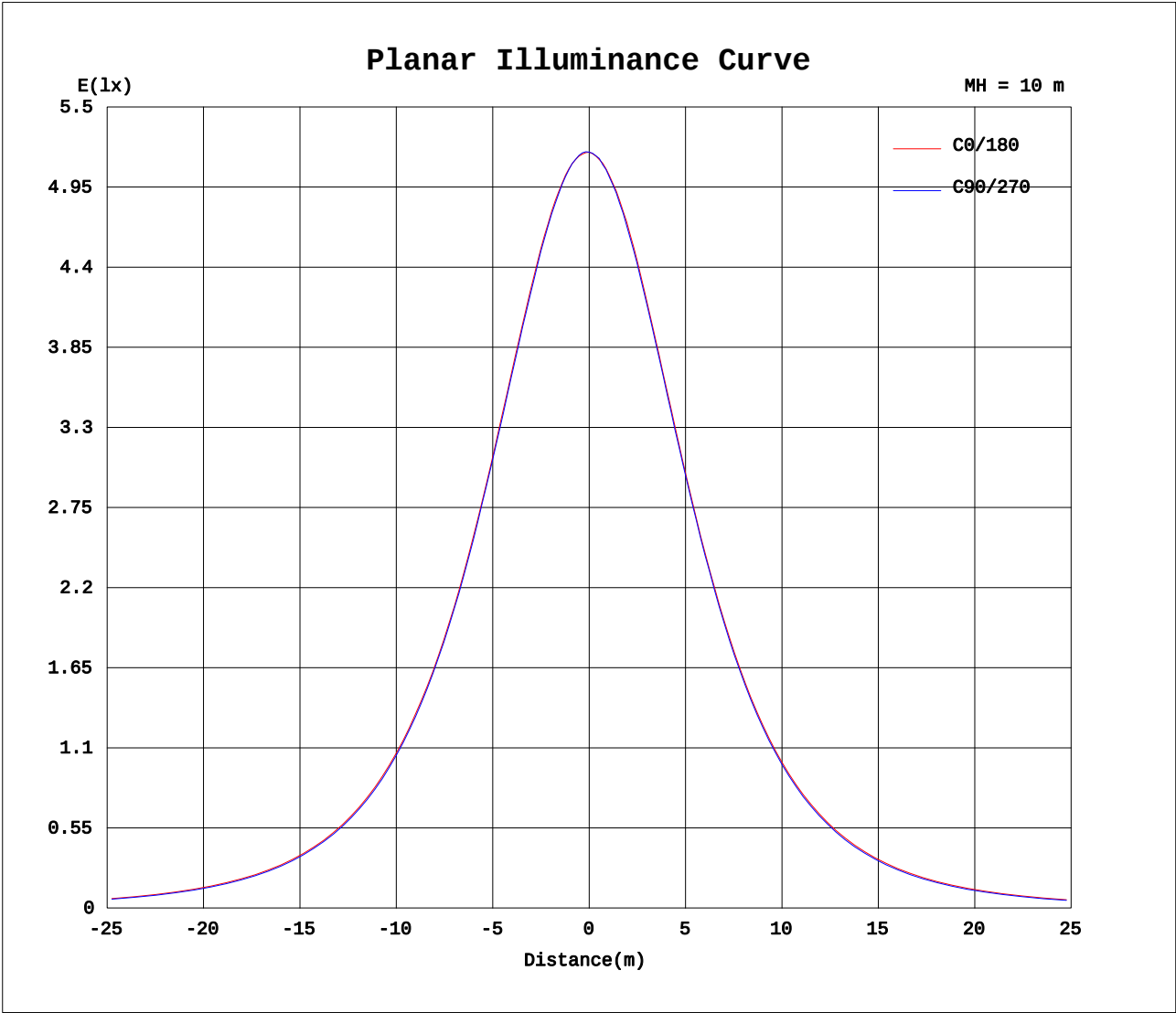


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.07V I:0.1467A P:17.329W PF:0.9835 Freq:60.01Hz Lamp Flux:1243.05x1 lm		
NAME:ASD-LWS30-24D18BK	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	519	519	519	519	519	519	519	519	519	519	519	519	519	519	519	519			
5	517	518	518	517	517	516	515	514	514	513	513	512	513	513	515	516			
10	508	508	508	506	506	505	502	502	501	499	499	498	500	500	505	505			
15	493	492	491	490	490	488	483	483	482	479	478	479	480	482	487	489			
20	470	470	470	467	467	464	458	457	457	453	451	454	455	457	464	466			
25	443	442	442	440	440	436	429	428	428	423	420	425	425	428	436	438			
30	412	411	409	409	409	404	396	395	394	389	387	392	392	395	403	405			
35	376	374	375	374	374	368	360	359	359	353	351	355	356	360	366	370			
40	339	338	338	337	336	331	323	322	321	315	312	317	318	322	327	333			
45	301	299	300	299	297	293	285	283	283	276	274	278	279	284	286	294			
50	262	261	260	261	257	255	247	245	245	237	236	238	240	245	247	254			
55	223	222	221	222	218	215	208	206	206	198	197	198	200	207	207	215			
60	184	183	182	183	178	176	170	169	168	161	159	159	161	169	168	176			
65	147	147	145	145	140	137	133	133	131	126	122	122	124	131	130	140			
70	112	112	109	107	103	100	99.0	98.2	96.3	92.1	88.9	86.3	87.8	93.2	97.2	106			
75	77.4	78.7	77.4	71.6	68.7	66.6	68.0	64.9	63.0	60.6	59.0	53.8	54.7	58.9	67.3	74.2			
80	44.8	47.5	48.6	40.8	37.3	38.9	39.5	34.1	31.0	30.3	31.7	26.8	25.3	33.0	39.3	43.0			
85	13.9	17.9	22.1	19.2	14.7	17.0	12.1	5.37	2.53	2.53	5.35	7.90	8.18	11.9	12.8	13.0			
90	0.48	0.67	0.81	1.76	2.20	0.86	0.47	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.19	0.20	0.19	0.19	0.00	0.00	0.19	0.13	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00			
100	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.09	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	0.10	0.11	0.08	0.09	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.11	0.19	0.20	0.29	0.09	0.09	0.10			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.18	0.27	0.28	0.43	0.14	0.09	0.10			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.26	0.32	0.27	0.43	0.20	0.15	0.10			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.31	0.37	0.36	0.52	0.26	0.22	0.12			
130	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.29	0.34	0.38	0.48	0.78	0.38	0.29	0.22			
135	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.36	0.38	0.38	0.48	0.97	0.51	0.35	0.31			
140	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.38	0.38	0.38	0.48	0.97	0.61	0.47	0.48			
145	0.00	0.09	0.00	0.00	0.29	0.09	0.00	0.00	0.38	0.38	0.38	0.48	0.97	0.67	0.47	0.38			
150	0.00	0.10	0.10	0.09	0.33	0.09	0.00	0.00	0.38	0.38	0.38	0.48	0.97	0.91	0.47	0.38			
155	0.00	0.10	0.10	0.10	0.39	0.09	0.09	0.00	0.38	0.38	0.38	0.48	0.97	1.00	0.47	0.38			
160	0.00	0.10	0.10	0.28	0.53	0.09	0.09	0.00	0.38	0.38	0.38	0.48	0.97	1.51	0.47	0.38			
165	0.00	0.10	0.10	0.47	0.79	0.22	0.09	0.00	0.38	0.38	0.38	0.48	0.97	1.64	0.47	0.38			
170	0.10	0.21	0.38	0.55	1.25	0.33	0.25	0.13	0.38	0.38	0.38	0.48	0.97	1.70	0.47	0.38			
175	0.25	0.38	0.57	0.86	1.61	0.37	0.35	0.29	0.38	0.38	0.38	0.48	0.97	1.70	0.47	0.38			
180	0.38	0.38	0.48	0.95	1.65	0.47	0.38	0.29	0.38	0.38	0.38	0.48	0.97	1.42	0.47	0.38			

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: