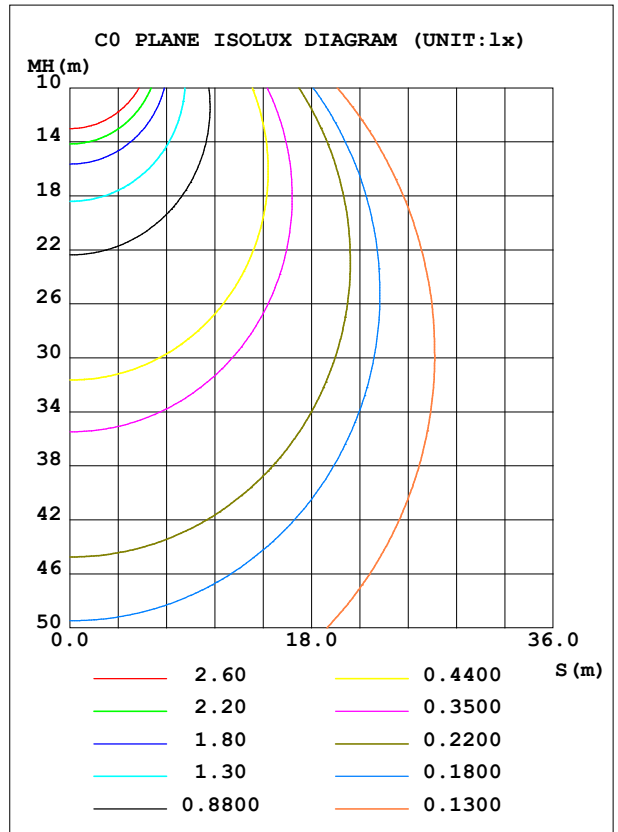
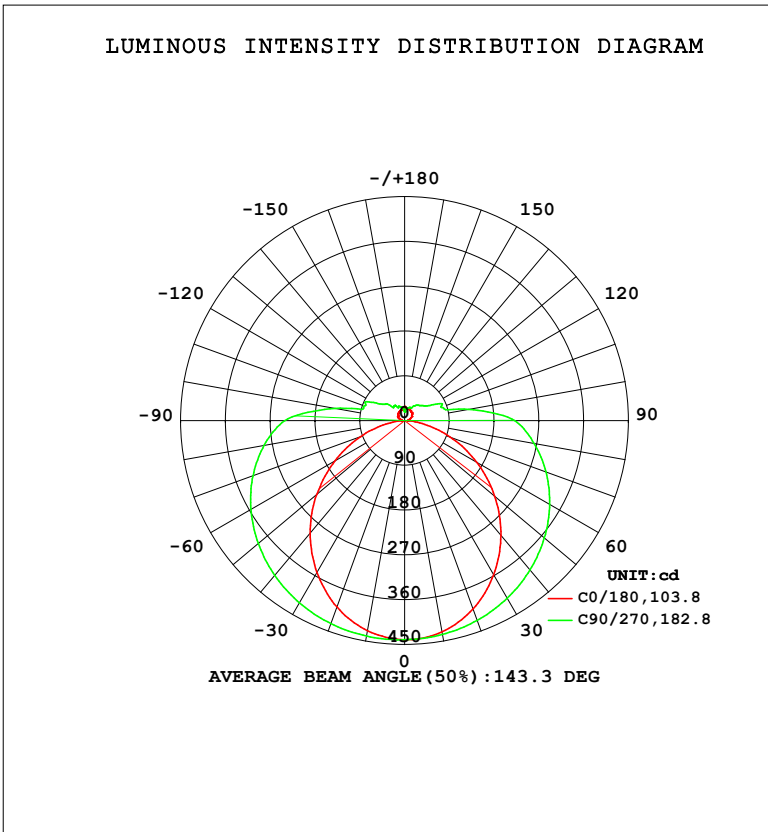


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 80.88 lm/W
MODEL	3000K	I _{max} (cd)	440.8	S/MH (C0/180)	1.20	
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	1.45	
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1955.6	η UP, DN (C0-180)	7.7, 41.6	
NOMINAL FLUX (lm)	1955.6	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	8.1, 42.7	
LAMPS INSIDE	1	η up (%)	15.7	CIBSE SHR NOM	1.50	
TEST VOLTAGE (V)	120	η down (%)	84.3	CIBSE SHR MAX	1.55	



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: DAMIN
 Test Date: 08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity: 65.0%
 Test Distance: 7.380m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270				γ	Φ zone	Φ total	%lum,lamp
10	431.2	436.3	428.9	439.8				0- 10	41.74	41.74	2.13,2.13
20	402.6	427.1	398.4	434.1				10- 20	120.4	162.1	8.29,8.29
30	357.8	412.4	352.5	423.1				20- 30	185.6	347.7	17.8,17.8
40	301.3	391.9	295.5	406.1				30- 40	230.8	578.5	29.6,29.6
50	236.5	366.6	230.4	384.0				40- 50	252.8	831.3	42.5,42.5
60	167.5	336.7	161.6	356.8				50- 60	251.0	1082	55.3,55.3
70	97.86	302.7	94.01	324.2				60- 70	228.3	1310	67,67
80	36.37	264.2	33.98	286.6				70- 80	189.8	1500	76.7,76.7
90	6.069	221.8	5.802	241.0				80- 90	147.4	1648	84.3,84.3
100	8.442	131.1	7.962	141.9				90-100	105.3	1753	89.6,89.6
110	12.38	78.69	11.89	86.49				100-110	57.18	1810	92.6,92.6
120	17.28	63.01	16.54	73.42				110-120	47.08	1857	95,95
130	20.12	47.26	17.84	51.01				120-130	33.18	1890	96.7,96.7
140	21.98	40.60	19.70	34.62				130-140	24.96	1915	97.9,97.9
150	23.67	31.56	21.46	34.53				140-150	18.26	1934	98.9,98.9
160	25.02	28.27	22.88	30.72				150-160	12.31	1946	99.5,99.5
170	24.86	22.88	22.85	26.51				160-170	7.356	1953	99.9,99.9
180	27.95	18.12	27.95	18.12				170-180	2.308	1956	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

Conical surface Flux(90deg): 703.62 lm

%lum = 36.0%
 %lamp = 36.0%

Conical surface Flux(120deg): 1082.2 lm

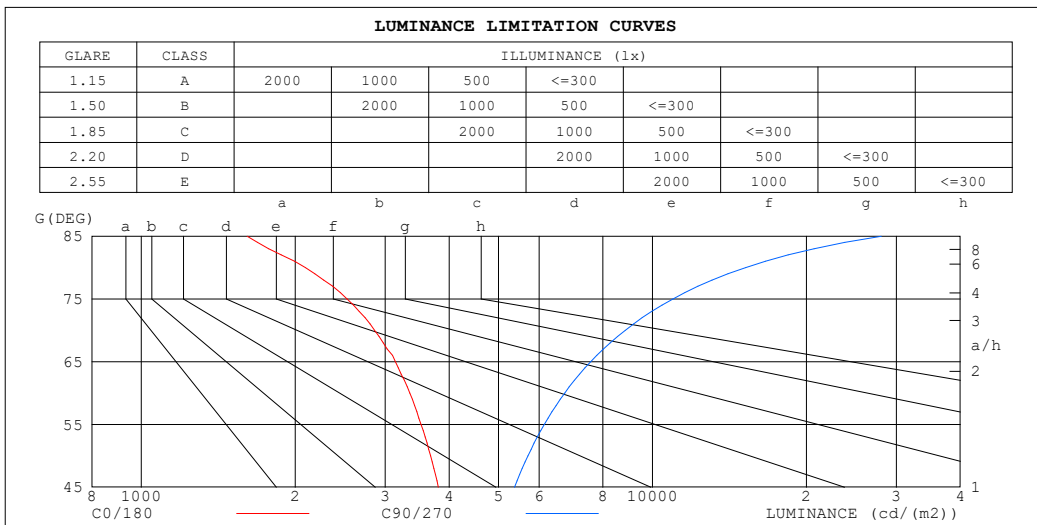
%lum = 55.3%
 %lamp = 55.3%

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1612	28041
80	2094	15212
75	2527	10962
70	2861	8850
65	3140	7575
60	3351	6734
55	3523	6143
50	3679	5704
45	3812	5372

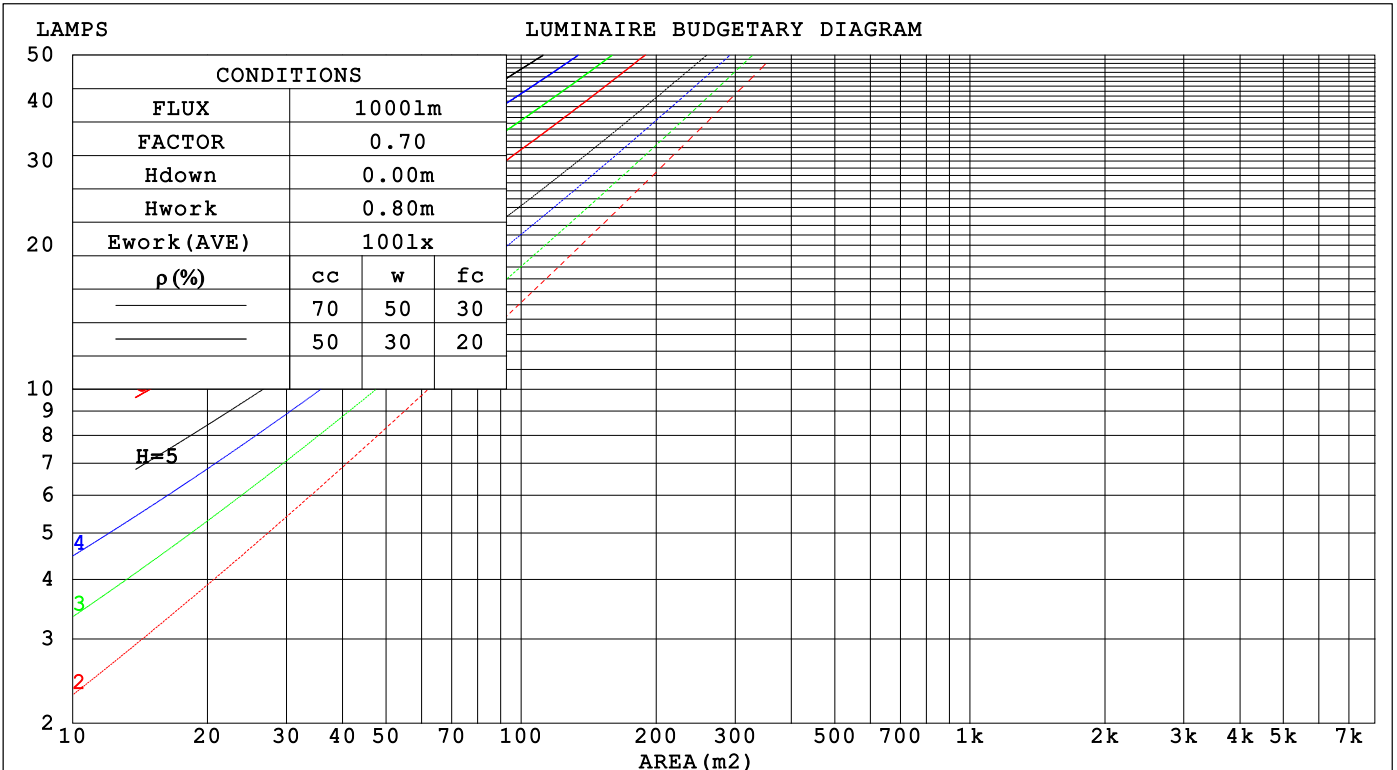
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: DAMIN
 Test Date: 08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity: 65.0%
 Test Distance: 7.380m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	.95	.95	.95	.88	.88	.88	.84
1.0	.96	.91	.86	.92	.87	.83	.85	.81	.77	.78	.75	.72	.72	.70	.67	.64
2.0	.82	.74	.68	.79	.72	.66	.73	.67	.62	.67	.62	.58	.62	.58	.54	.51
3.0	.71	.62	.55	.68	.60	.53	.63	.56	.50	.58	.52	.48	.54	.49	.45	.42
4.0	.63	.53	.46	.60	.51	.45	.56	.48	.42	.51	.45	.40	.47	.42	.38	.35
5.0	.55	.46	.39	.53	.45	.38	.49	.42	.36	.46	.39	.34	.42	.37	.32	.30
6.0	.50	.40	.34	.48	.39	.33	.44	.37	.31	.41	.35	.30	.38	.33	.28	.26
7.0	.45	.36	.29	.43	.35	.29	.40	.33	.27	.37	.31	.26	.35	.29	.25	.23
8.0	.41	.32	.26	.39	.31	.25	.37	.29	.24	.34	.28	.23	.32	.26	.22	.20
9.0	.37	.29	.23	.36	.28	.23	.34	.27	.22	.31	.25	.21	.29	.24	.20	.18
10.0	.34	.26	.21	.33	.26	.20	.31	.24	.20	.29	.23	.19	.27	.22	.18	.16



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3 °C
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

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	.387	.220	.070	.375	.214	.068	.352	.202	.065	.332	.191	.061	.312	.181	.058	
2.0	.335	.184	.056	.324	.179	.055	.304	.169	.052	.285	.160	.050	.268	.151	.048	
3.0	.298	.158	.047	.288	.154	.046	.269	.146	.044	.252	.138	.042	.237	.131	.041	
4.0	.268	.139	.041	.259	.136	.040	.242	.129	.038	.227	.122	.037	.213	.116	.035	
5.0	.243	.124	.036	.235	.121	.035	.220	.115	.034	.206	.109	.032	.193	.103	.031	
6.0	.223	.112	.032	.216	.109	.031	.202	.104	.030	.189	.098	.029	.177	.093	.028	
7.0	.206	.102	.029	.199	.099	.028	.187	.094	.027	.175	.090	.026	.164	.085	.025	
8.0	.191	.093	.026	.185	.091	.026	.173	.087	.025	.162	.082	.024	.152	.078	.023	
9.0	.178	.086	.024	.172	.084	.024	.162	.080	.023	.152	.076	.022	.142	.072	.021	
10.0	.166	.080	.022	.161	.078	.022	.151	.074	.021	.142	.071	.020	.134	.067	.019	

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	.310	.310	.310	.265	.265	.265	.181	.181	.181	.104	.104	.104	.033	.033	.033	
1.0	.307	.276	.249	.262	.237	.215	.179	.163	.148	.103	.094	.086	.033	.030	.028	
2.0	.300	.253	.215	.257	.218	.185	.176	.151	.129	.101	.088	.076	.033	.028	.025	
3.0	.292	.237	.193	.251	.204	.167	.172	.142	.117	.099	.083	.069	.032	.027	.023	
4.0	.284	.224	.179	.244	.194	.155	.168	.135	.109	.097	.079	.065	.031	.026	.021	
5.0	.277	.215	.169	.238	.186	.147	.164	.130	.104	.095	.076	.061	.031	.025	.020	
6.0	.269	.207	.162	.231	.179	.141	.160	.125	.100	.093	.074	.059	.030	.024	.020	
7.0	.262	.200	.156	.225	.173	.136	.156	.121	.097	.090	.072	.057	.029	.023	.019	
8.0	.255	.194	.152	.220	.169	.133	.152	.118	.094	.088	.070	.056	.029	.023	.019	
9.0	.249	.190	.149	.215	.164	.130	.149	.116	.092	.087	.068	.055	.028	.022	.018	
10.0	.243	.185	.147	.210	.161	.128	.145	.113	.091	.085	.067	.054	.028	.022	.018	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz										
Lamp Flux:1955.6x1 lm										
NAME: WS24-085-BK 24W 30K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.: 1		
MFR.: EVERFINE					SUR.:			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	13.7	15.1	14.2	15.6	16.1	16.2	17.6	16.6	18.0	18.6
3H	15.1	16.4	15.7	16.9	17.5	18.9	20.2	19.5	20.7	21.3
4H	15.7	16.9	16.2	17.4	18.0	20.5	21.7	21.0	22.3	22.9
6H	16.0	17.2	16.6	17.8	18.4	22.2	23.4	22.8	24.0	24.6
8H	16.1	17.3	16.7	17.8	18.5	23.2	24.3	23.8	24.9	25.5
12H	16.2	17.3	16.8	17.8	18.5	24.3	25.4	24.9	26.0	26.6
4H 2H	14.9	16.1	15.4	16.6	17.2	16.6	17.9	17.2	18.4	19.0
3H	16.6	17.7	17.2	18.2	18.9	19.6	20.7	20.2	21.3	21.9
4H	17.3	18.3	17.9	18.9	19.6	21.4	22.4	22.0	22.9	23.6
6H	17.9	18.8	18.5	19.4	20.1	23.3	24.2	23.9	24.8	25.5
8H	18.1	19.0	18.7	19.6	20.3	24.4	25.2	25.0	25.9	26.6
12H	18.2	19.0	18.9	19.7	20.4	25.7	26.5	26.3	27.1	27.8
8H 4H	18.4	19.2	19.0	19.9	20.6	21.6	22.5	22.2	23.1	23.8
6H	19.3	20.1	20.0	20.7	21.5	23.8	24.5	24.5	25.2	25.9
8H	19.8	20.4	20.4	21.1	21.9	25.1	25.8	25.8	26.4	27.2
12H	20.1	20.7	20.8	21.3	22.1	26.7	27.2	27.4	27.9	28.7
12H 4H	18.7	19.5	19.4	20.1	20.9	21.6	22.4	22.3	23.0	23.8
6H	19.9	20.5	20.6	21.2	22.0	23.9	24.5	24.6	25.2	26.0
8H	20.5	21.1	21.2	21.8	22.6	25.3	25.9	26.0	26.5	27.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.3 / - 0.5					+ 0.2 / - 0.3				

CIE Pub.117, 1956 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.3)
 Area: 0.1 m2

C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 90.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
Temperature:25.3℃	Humidity:65.0%
Operators:DAMIN	Test Distance:7.380m [K=1.0000]
Test Date:08 April 2026	Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

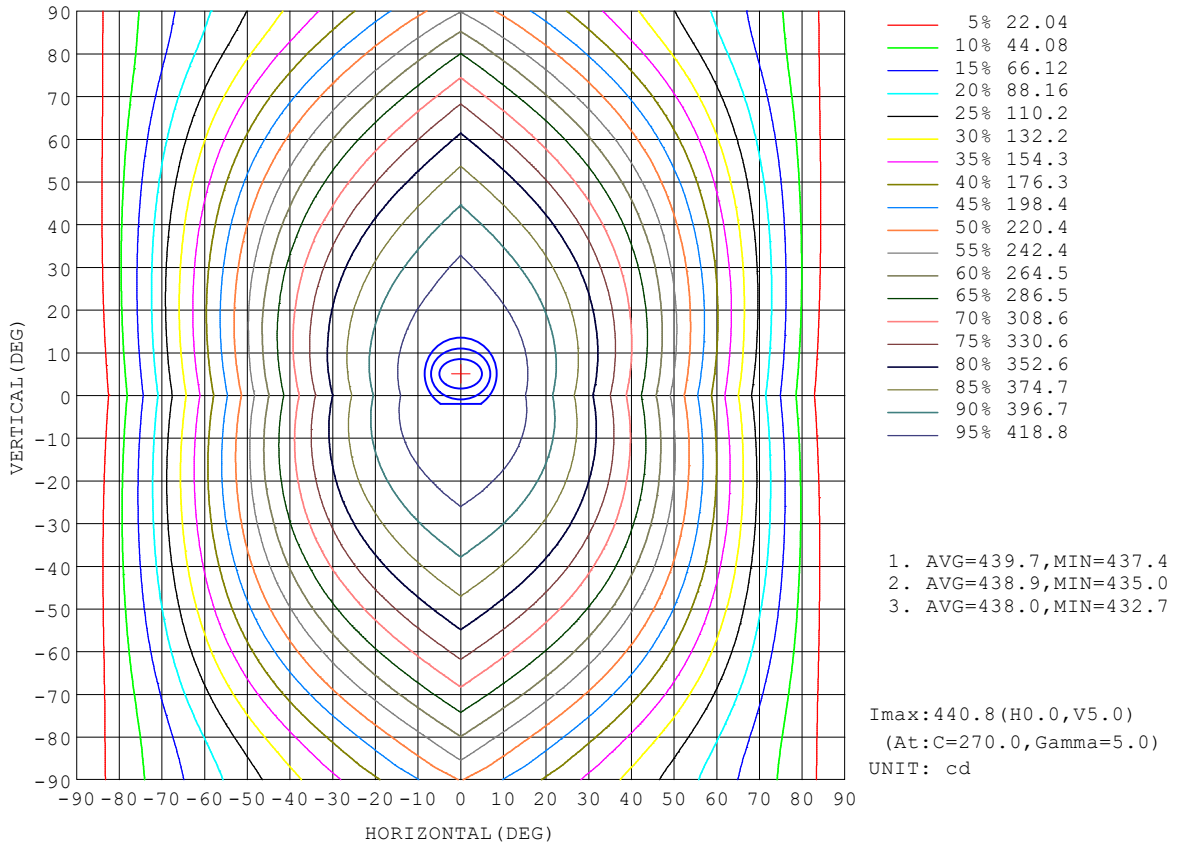
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	47	36	29	46	35	28	21
0.80	58	45	37	56	44	36	53	43	35	28
1.00	65	53	44	64	52	44	60	52	43	34
1.25	72	60	51	70	58	50	66	56	49	39
1.50	77	65	57	75	64	56	70	61	54	44
2.00	85	74	65	82	72	64	76	68	61	50
2.50	89	79	71	86	77	69	80	72	66	54
3.00	93	84	76	89	81	74	83	76	71	58
4.00	98	90	83	94	87	81	87	81	76	63
5.00	101	94	88	97	90	85	89	85	80	66
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3 °C
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

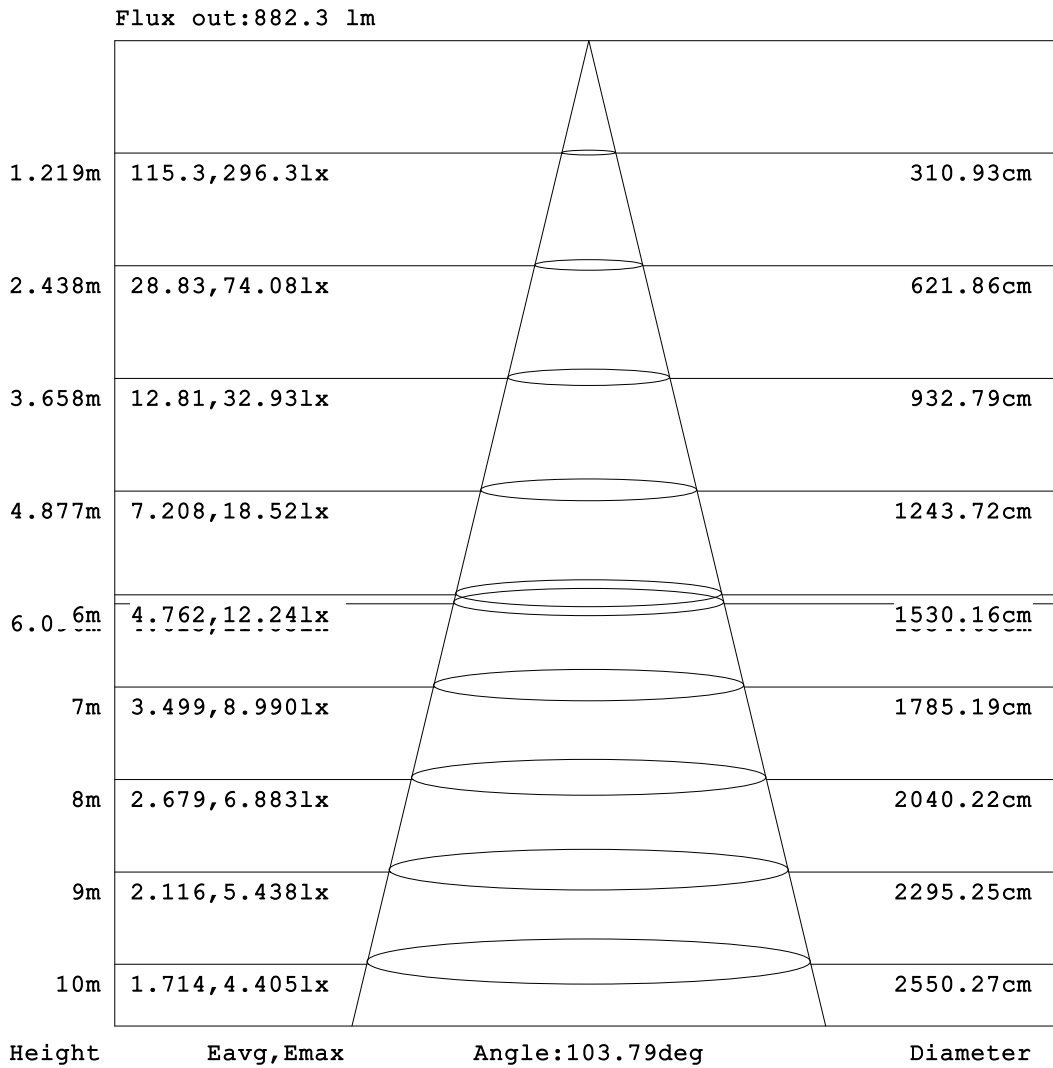


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3 °C
Operators: DAMIN
Test Date: 08 April 2026

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.459
Humidity: 65.0%
Test Distance: 7.380m [K=1.0000]
Remarks:

AAI Figure

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



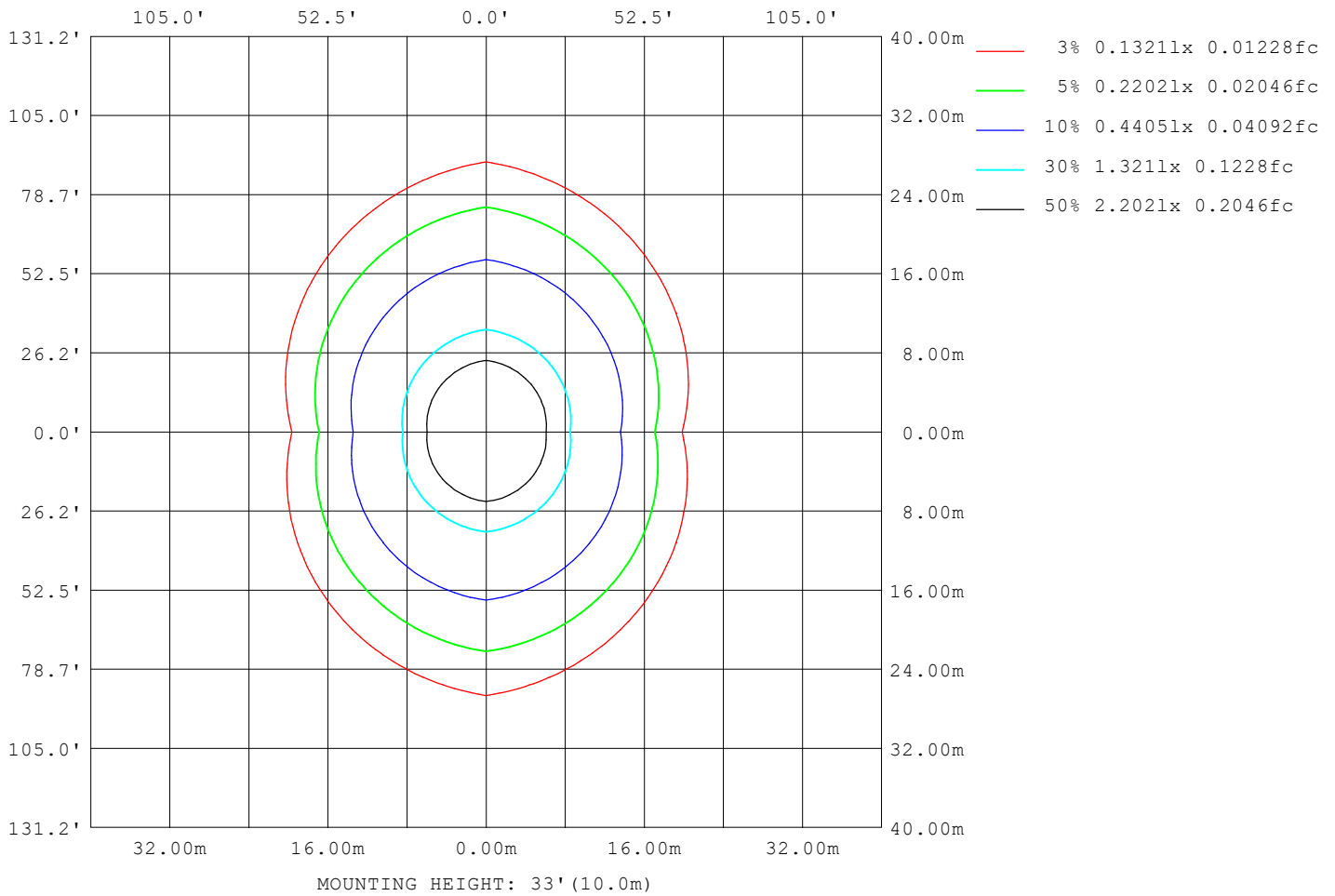
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3 °C
Operators:DAMIN
Test Date:08 April 2026

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
Humidity:65.0%
Test Distance:7.380m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3 °C
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

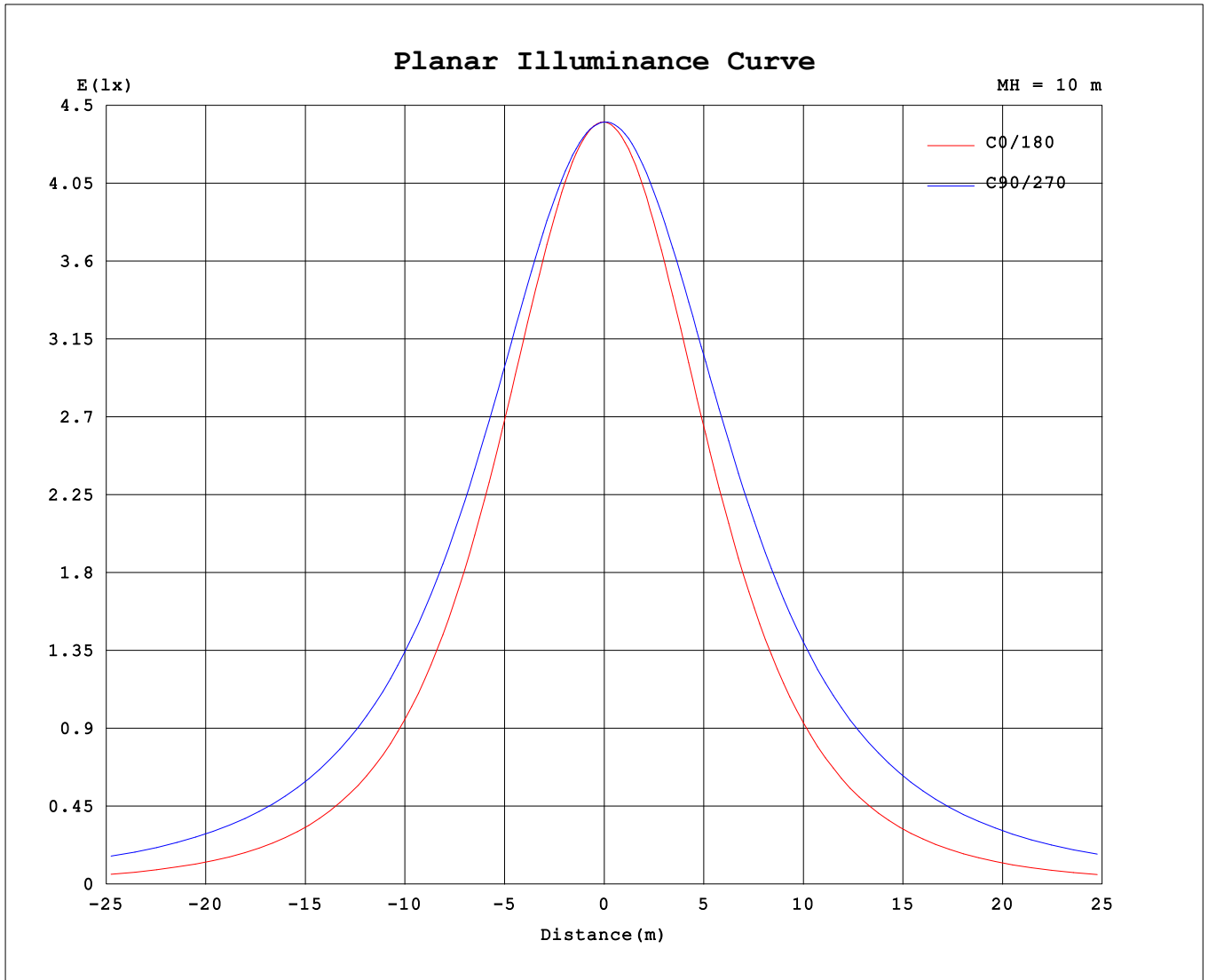
AvgL	cd/m2
L_0~180 (65) av	3078
L_0~180 (75) av	2467
L_0~180 (85) av	1524
L_90~270 (65) av	7824
L_90~270 (75) av	11395
L_90~270 (85) av	29240
L_45 (65) av	6040
L_45 (75) av	8043
L_45 (85) av	18841

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
 Test Distance:7.380m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: DAMIN
 Test Date: 08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity: 65.0%
 Test Distance: 7.380m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.04V I:0.2213A P:24.178W PF:0.9100 Freq:59.98Hz Lamp Flux:1955.6x1 lm		
NAME: WS24-085-BK 24W 30K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	90	180	270															
0	440	440	440	440															
5	438	439	437	441															
10	431	436	429	440															
15	419	433	416	438															
20	403	427	398	434															
25	382	420	377	429															
30	358	412	353	423															
35	331	403	325	415															
40	301	392	296	406															
45	270	380	264	396															
50	236	367	230	384															
55	202	352	196	371															
60	168	337	162	357															
65	133	320	127	341															
70	97.9	303	94.0	324															
75	65.4	284	62.3	306															
80	36.4	264	34.0	287															
85	14.1	244	12.5	265															
90	6.07	222	5.80	241															
95	6.85	178	6.62	195															
100	8.44	131	7.96	142															
105	10.3	85.4	9.68	89.1															
110	12.4	78.7	11.9	86.5															
115	15.0	81.7	14.4	88.1															
120	17.3	63.0	16.5	73.4															
125	18.1	52.0	16.1	58.4															
130	20.1	47.3	17.8	51.0															
135	21.5	43.5	19.3	45.9															
140	22.0	40.6	19.7	34.6															
145	22.8	36.7	20.5	36.2															
150	23.7	31.6	21.5	34.5															
155	24.4	29.0	22.2	29.6															
160	25.0	28.3	22.9	30.7															
165	25.4	27.0	23.2	28.4															
170	24.9	22.9	22.8	26.5															
175	28.3	19.2	26.2	23.7															
180	27.9	18.1	27.9	18.1															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:DAMIN
 Test Date:08 April 2026

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.459
 Humidity:65.0%
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 Remarks: