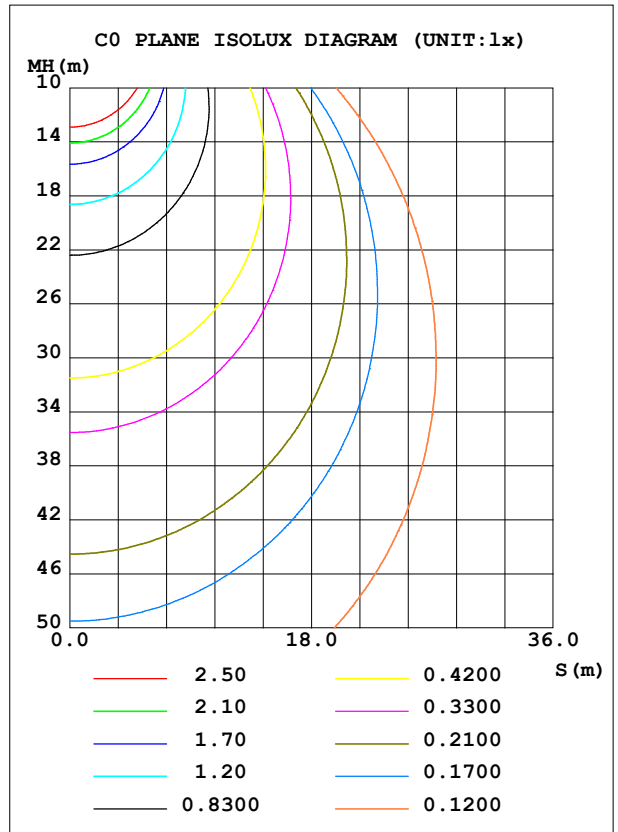
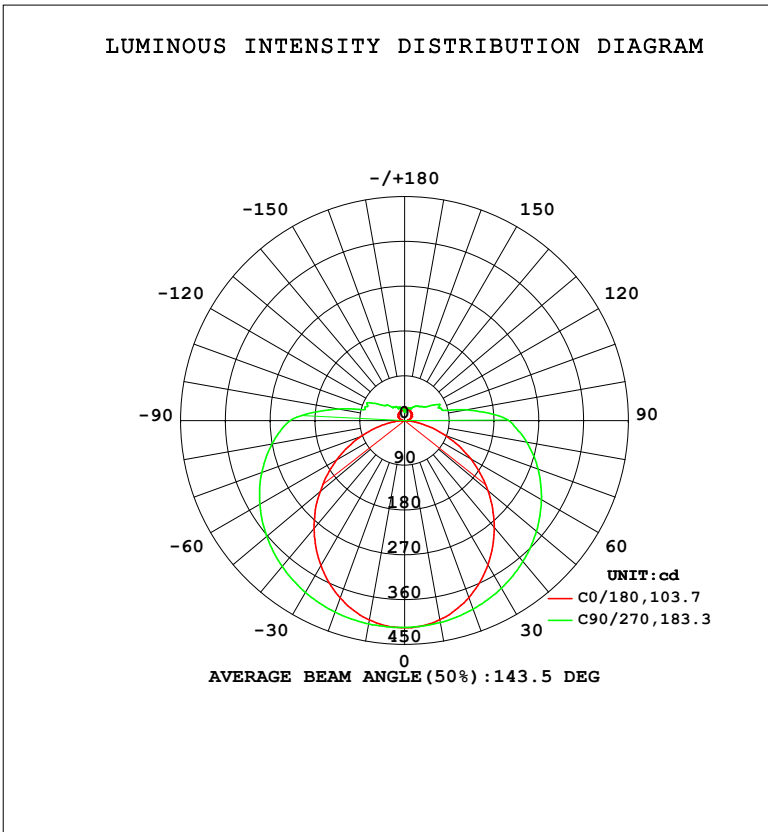


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 75.95 lm/W
MODEL	2700K	I _{max} (cd)	416.6	S/MH (C0/180)	1.21	
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	1.45	
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	1846.8	η UP, DN (C0-180)	7.7, 41.2	
NOMINAL FLUX (lm)	1846.81	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	8.1, 43.0	
LAMPS INSIDE	1	η up (%)	15.8	CIBSE SHR NOM	1.50	
TEST VOLTAGE (V)	120	η down (%)	84.2	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	406.7	412.2	407.1	415.0				0- 10	39.44	39.44	2.14,2.14
20	378.5	403.2	379.2	409.5				10- 20	113.8	153.2	8.3,8.3
30	334.9	389.1	336.6	398.8				20- 30	175.3	328.5	17.8,17.8
40	280.6	369.8	283.2	382.9				30- 40	217.9	546.3	29.6,29.6
50	218.6	345.9	221.4	361.8				40- 50	238.5	784.8	42.5,42.5
60	153.0	317.7	157.5	336.0				50- 60	236.7	1022	55.3,55.3
70	87.22	285.5	93.50	305.5				60- 70	215.2	1237	67,67
80	30.22	249.3	35.92	270.2				70- 80	178.9	1416	76.7,76.7
90	5.681	209.8	5.407	230.2				80- 90	139.2	1555	84.2,84.2
100	8.110	126.0	7.242	135.5				90-100	100.5	1655	89.6,89.6
110	11.94	74.70	10.62	82.74				100-110	54.47	1710	92.6,92.6
120	16.41	60.50	15.32	69.56				110-120	44.55	1754	95,95
130	19.07	44.40	16.60	48.08				120-130	31.15	1786	96.7,96.7
140	20.57	38.08	18.76	35.72				130-140	23.38	1809	97.9,97.9
150	22.10	29.73	20.37	31.95				140-150	17.20	1826	98.9,98.9
160	23.36	26.64	21.79	28.91				150-160	11.59	1838	99.5,99.5
170	23.38	21.71	21.63	24.99				160-170	6.924	1845	99.9,99.9
180	26.34	17.38	26.36	17.28				170-180	2.184	1847	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

Conical surface Flux(90deg): 664.44 lm

%lum = 36.0%

%lamp = 36.0%

Conical surface Flux(120deg): 1021.5 lm

%lum = 55.3%

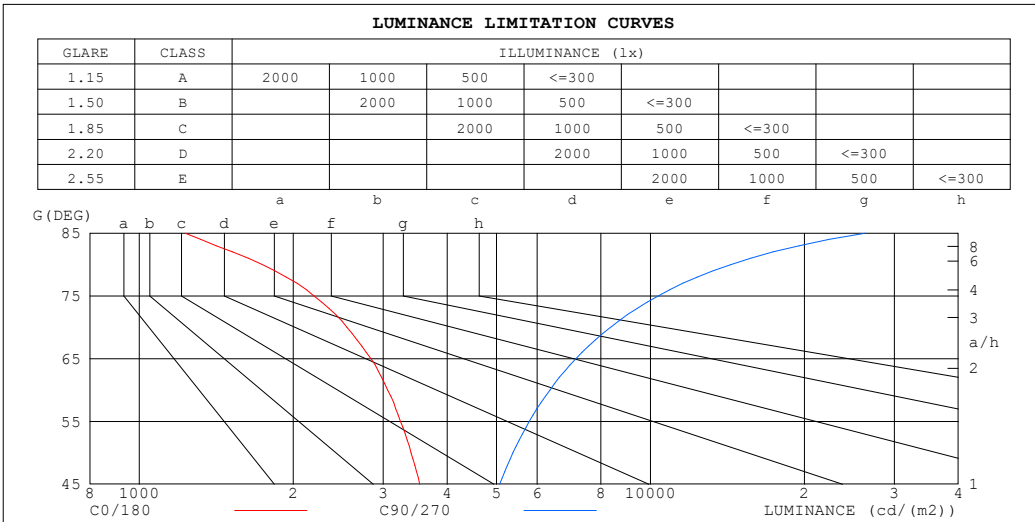
%lamp = 55.3%

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:

LUMINANCE LIMITATION CURVES

Test:U:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1231	26283
80	1741	14358
75	2198	10351
70	2550	8346
65	2838	7147
60	3060	6354
55	3241	5792
50	3401	5381
45	3537	5071

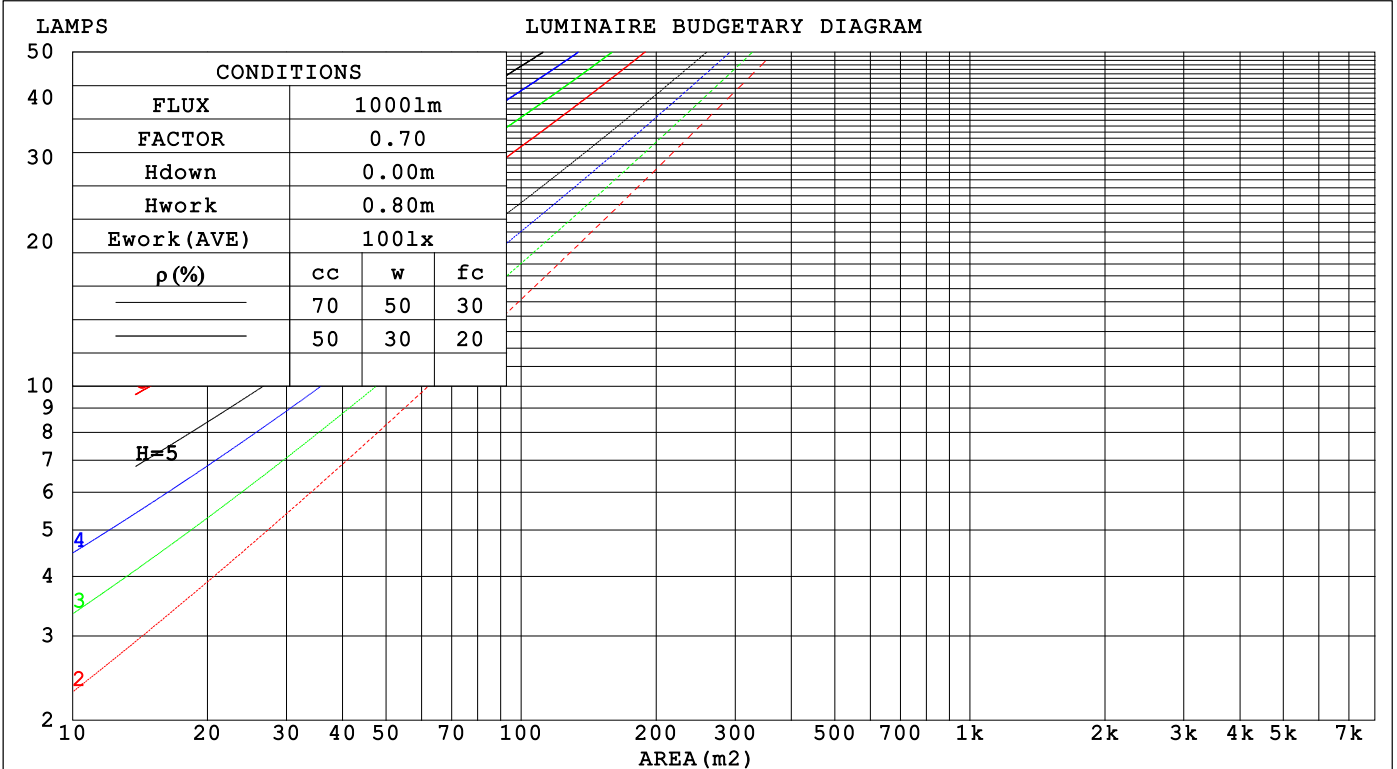
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators: DAMIN
 Test Date: 08 April 2026

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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz		
Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	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	.331	.191	.061	.312	.181	.058	
2.0	.335	.184	.056	.324	.178	.055	.304	.169	.052	.285	.160	.050	.267	.151	.048	
3.0	.298	.158	.047	.288	.154	.046	.269	.146	.044	.252	.138	.042	.236	.131	.041	
4.0	.268	.139	.041	.259	.136	.040	.242	.128	.038	.227	.122	.037	.212	.115	.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	.103	.030	.189	.098	.029	.177	.093	.028	
7.0	.206	.102	.029	.199	.099	.028	.186	.094	.027	.175	.090	.026	.164	.085	.025	
8.0	.191	.093	.026	.185	.091	.026	.173	.086	.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	.133	.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	.311	.311	.311	.266	.266	.266	.181	.181	.181	.104	.104	.104	.033	.033	.033	
1.0	.307	.277	.250	.263	.238	.215	.180	.164	.149	.103	.095	.086	.033	.030	.028	
2.0	.300	.254	.215	.257	.219	.186	.176	.151	.130	.102	.088	.076	.033	.028	.025	
3.0	.293	.237	.193	.251	.205	.168	.172	.142	.118	.100	.083	.069	.032	.027	.023	
4.0	.285	.225	.179	.244	.194	.156	.168	.135	.110	.097	.079	.065	.031	.026	.021	
5.0	.277	.215	.169	.238	.186	.147	.164	.130	.104	.095	.076	.062	.031	.025	.020	
6.0	.270	.207	.162	.232	.179	.141	.160	.126	.100	.093	.074	.059	.030	.024	.020	
7.0	.263	.200	.157	.226	.174	.137	.156	.122	.097	.091	.072	.058	.029	.023	.019	
8.0	.256	.195	.153	.220	.169	.133	.152	.119	.095	.089	.070	.056	.029	.023	.019	
9.0	.250	.190	.150	.215	.165	.131	.149	.116	.093	.087	.068	.055	.028	.022	.018	
10.0	.244	.186	.147	.210	.161	.129	.146	.114	.091	.085	.067	.055	.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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz										
Lamp Flux:1846.81x1 lm										
NAME: WS24-085-BK 24W 27K					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	13.6	15.0	14.1	15.5	16.0	16.1	17.5	16.6	18.0	18.5
3H	15.0	16.3	15.5	16.8	17.3	18.9	20.2	19.4	20.7	21.3
4H	15.5	16.7	16.0	17.2	17.8	20.5	21.7	21.0	22.2	22.8
6H	15.8	17.0	16.3	17.5	18.1	22.2	23.4	22.8	23.9	24.5
8H	15.9	17.0	16.4	17.6	18.2	23.2	24.3	23.8	24.9	25.5
12H	15.9	17.0	16.5	17.6	18.2	24.3	25.4	24.9	26.0	26.6
4H 2H	14.8	16.0	15.3	16.5	17.1	16.6	17.8	17.1	18.4	18.9
3H	16.4	17.5	17.0	18.1	18.7	19.6	20.7	20.2	21.2	21.9
4H	17.2	18.2	17.8	18.7	19.4	21.3	22.3	21.9	22.9	23.6
6H	17.7	18.6	18.3	19.2	19.9	23.3	24.2	23.9	24.8	25.5
8H	17.9	18.7	18.5	19.3	20.1	24.4	25.2	25.0	25.9	26.6
12H	18.0	18.8	18.6	19.4	20.1	25.7	26.4	26.3	27.1	27.8
8H 4H	18.2	19.1	18.9	19.7	20.4	21.6	22.4	22.2	23.0	23.8
6H	19.2	19.9	19.8	20.5	21.3	23.8	24.5	24.4	25.2	25.9
8H	19.6	20.2	20.2	20.9	21.6	25.1	25.7	25.8	26.4	27.2
12H	19.9	20.4	20.6	21.1	21.9	26.6	27.2	27.3	27.9	28.7
12H 4H	18.6	19.4	19.2	20.0	20.7	21.6	22.4	22.2	23.0	23.7
6H	19.7	20.4	20.4	21.1	21.8	23.9	24.5	24.5	25.2	26.0
8H	20.3	20.9	21.0	21.6	22.4	25.3	25.8	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, 1847 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.1)
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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

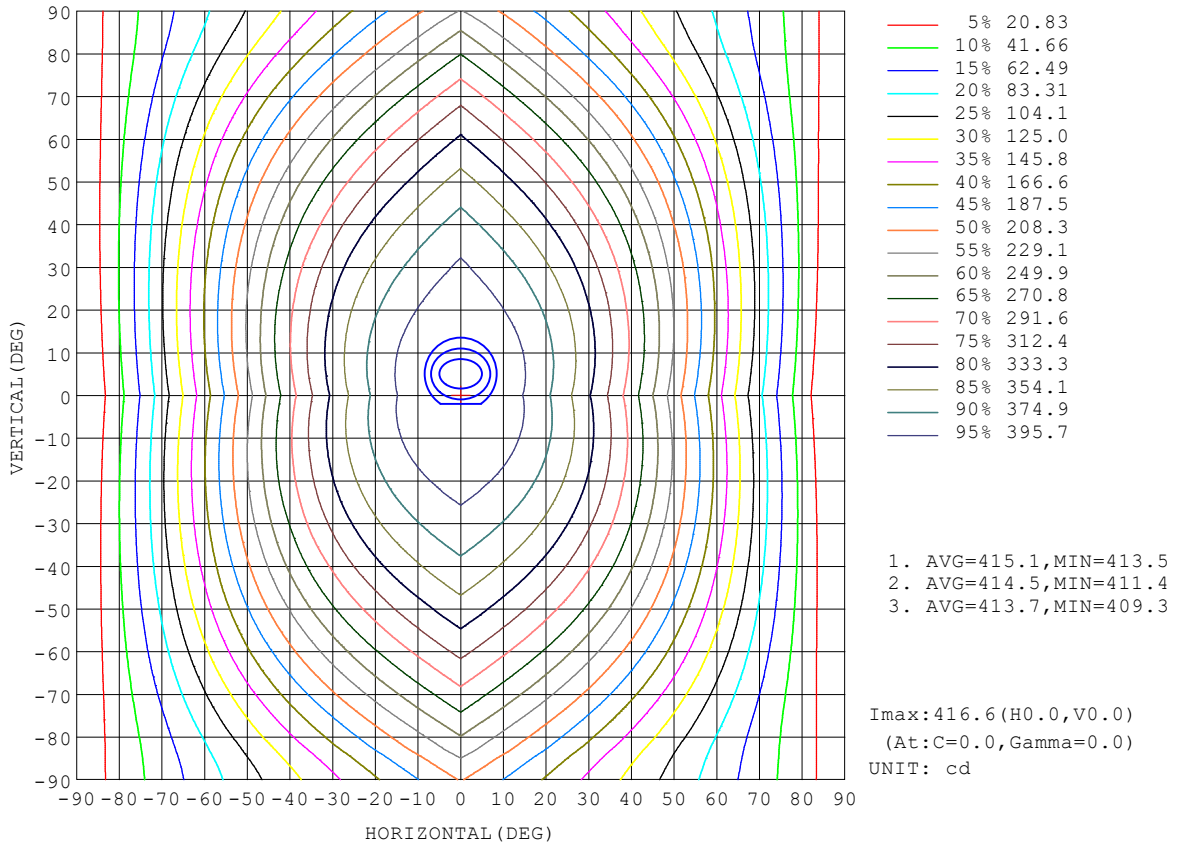
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	47	36	29	46	35	28	21
0.80	58	45	37	56	44	36	53	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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

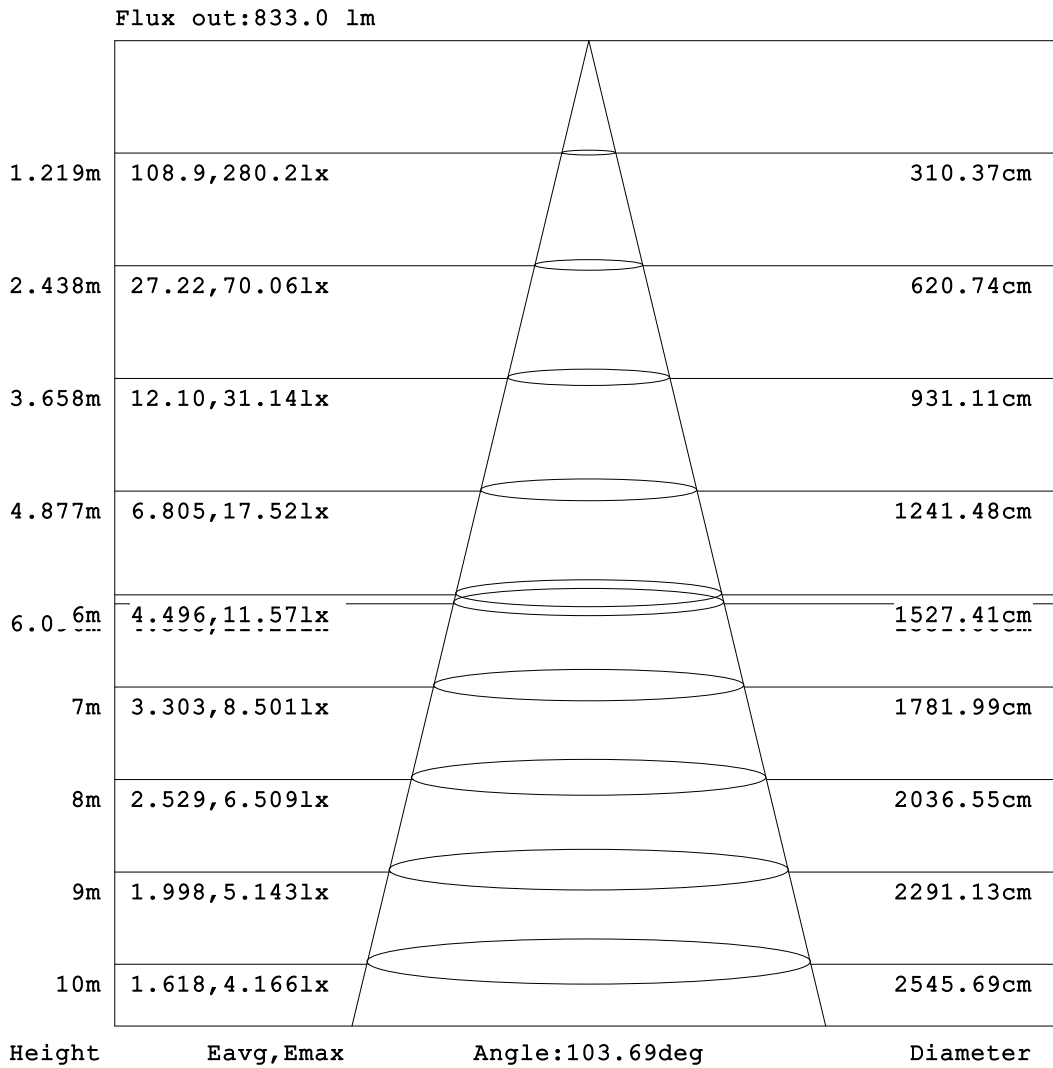


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3 °C
Operators: DAMIN
Test Date: 08 April 2026

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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



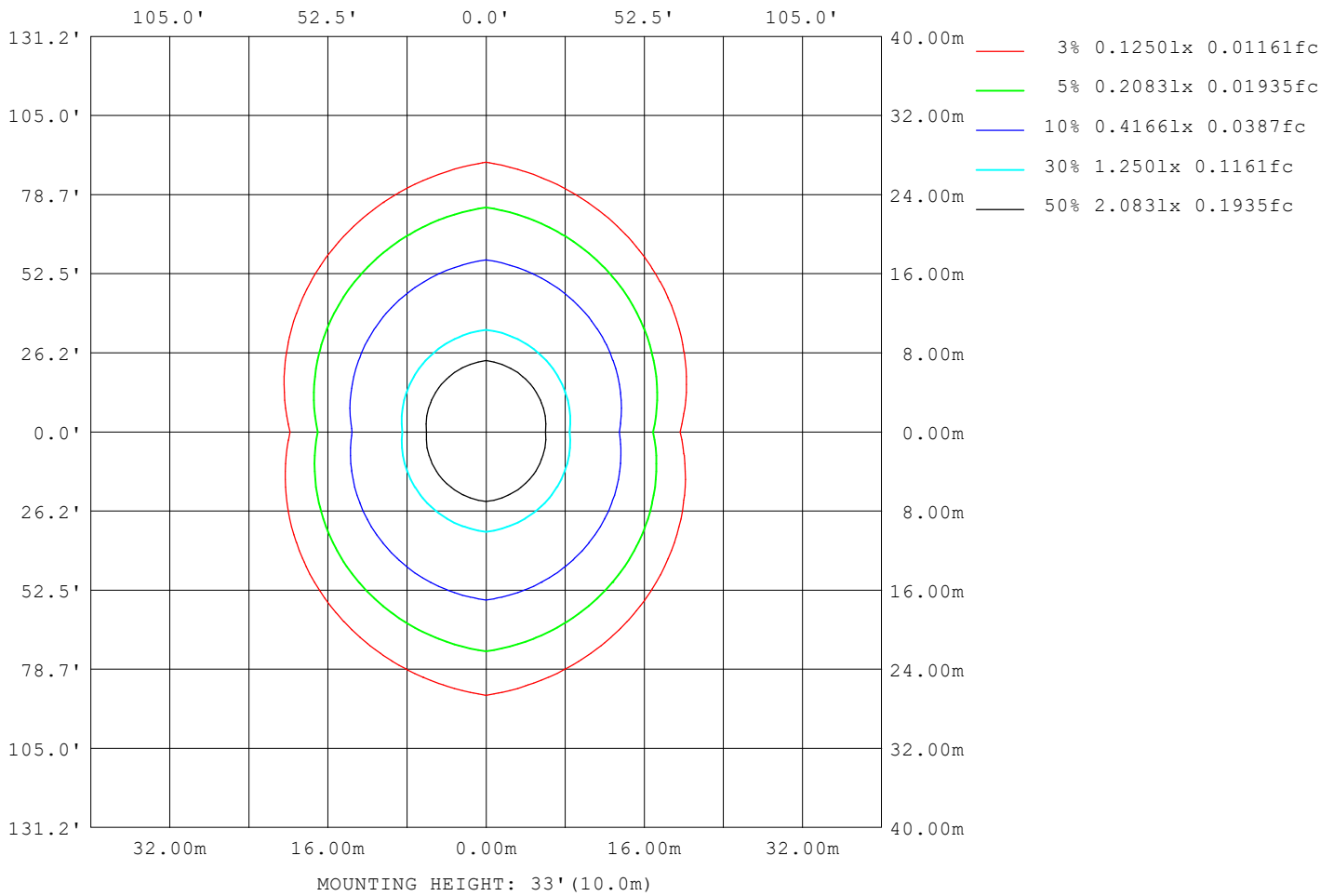
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

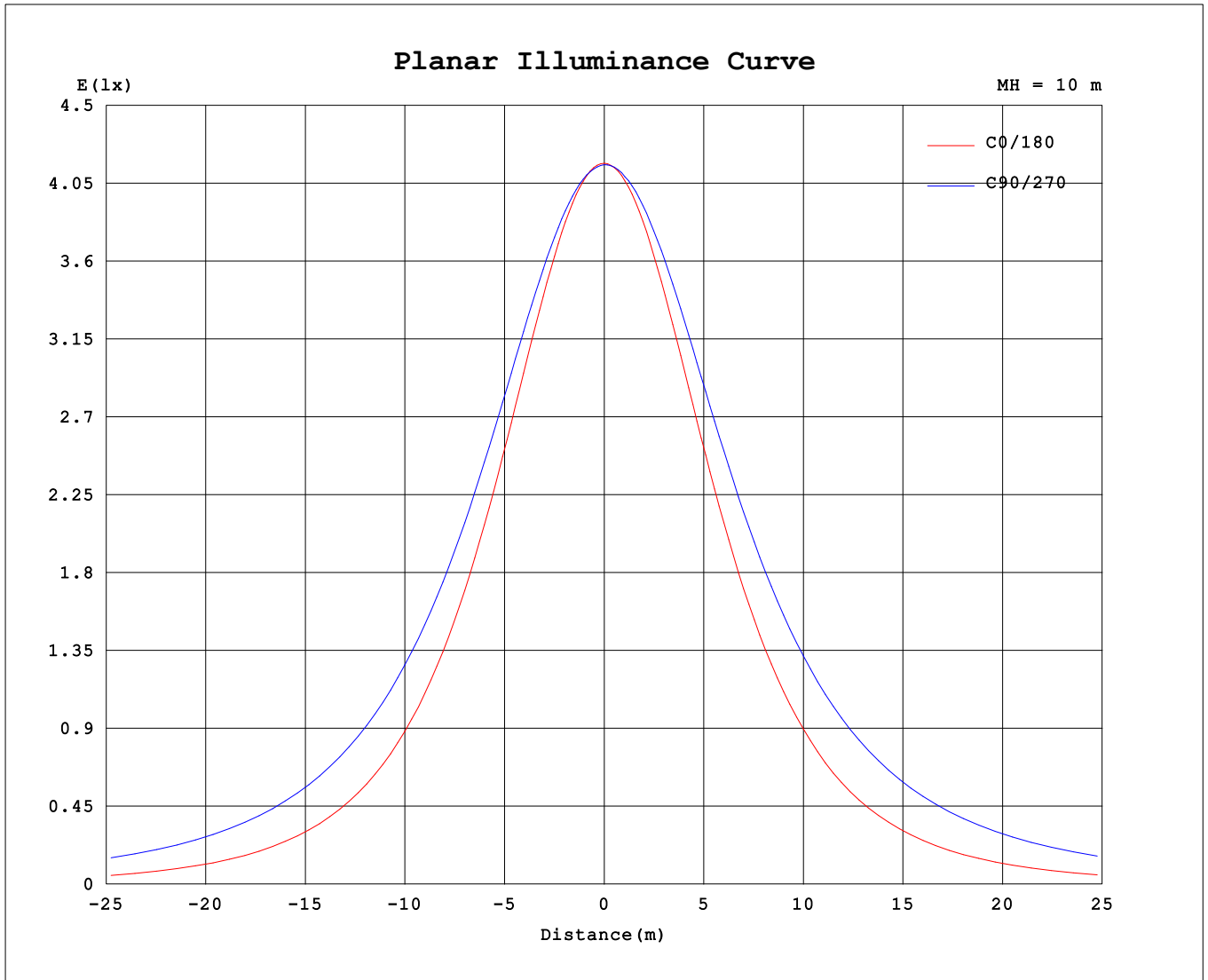
AvgL	cd/m2
L_0~180 (65) av	2900
L_0~180 (75) av	2321
L_0~180 (85) av	1430
L_90~270 (65) av	7376
L_90~270 (75) av	10748
L_90~270 (85) av	27573
L_45 (65) av	5701
L_45 (75) av	7596
L_45 (85) av	17782

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:120.02V I:0.2239A P:24.316W PF:0.9050 Freq:59.98Hz Lamp Flux:1846.81x1 lm		
NAME: WS24-085-BK 24W 27K	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	417	416	417	416															
5	414	415	414	416															
10	407	412	407	415															
15	394	408	395	413															
20	378	403	379	409															
25	358	397	360	405															
30	335	389	337	399															
35	309	380	311	392															
40	281	370	283	383															
45	250	359	254	373															
50	219	346	221	362															
55	186	332	190	349															
60	153	318	157	336															
65	120	302	125	321															
70	87.2	285	93.5	306															
75	56.9	268	63.3	288															
80	30.2	249	35.9	270															
85	10.7	229	14.2	252															
90	5.68	210	5.41	230															
95	6.56	170	6.05	186															
100	8.11	126	7.24	135															
105	9.91	79.5	8.68	85.7															
110	11.9	74.7	10.6	82.7															
115	14.4	78.1	13.0	83.9															
120	16.4	60.5	15.3	69.6															
125	17.1	48.8	15.3	54.3															
130	19.1	44.4	16.6	48.1															
135	20.3	40.9	18.1	41.4															
140	20.6	38.1	18.8	35.7															
145	21.3	34.6	19.5	32.8															
150	22.1	29.7	20.4	31.9															
155	22.8	27.3	21.2	27.8															
160	23.4	26.6	21.8	28.9															
165	23.7	25.5	22.2	26.4															
170	23.4	21.7	21.6	25.0															
175	26.7	18.5	24.7	22.6															
180	26.3	17.4	26.4	17.3															

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: