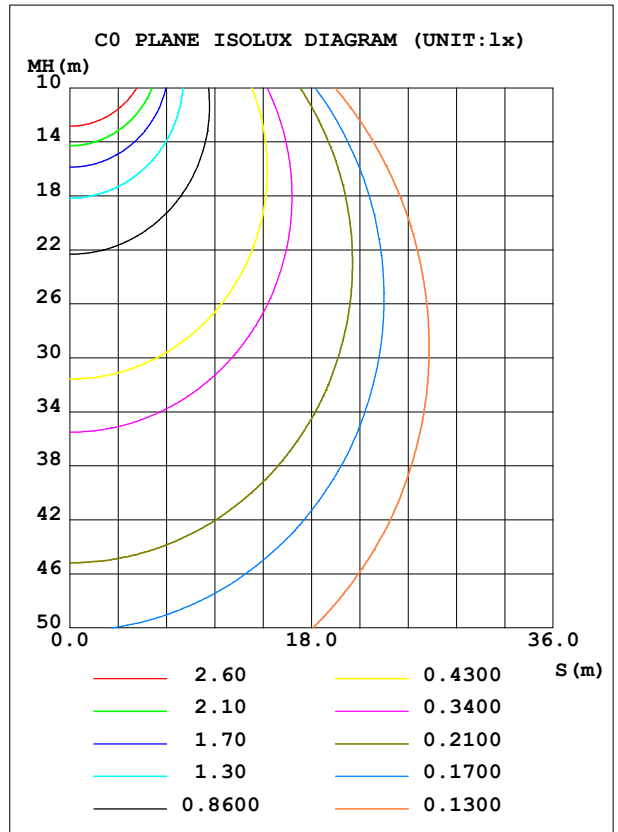
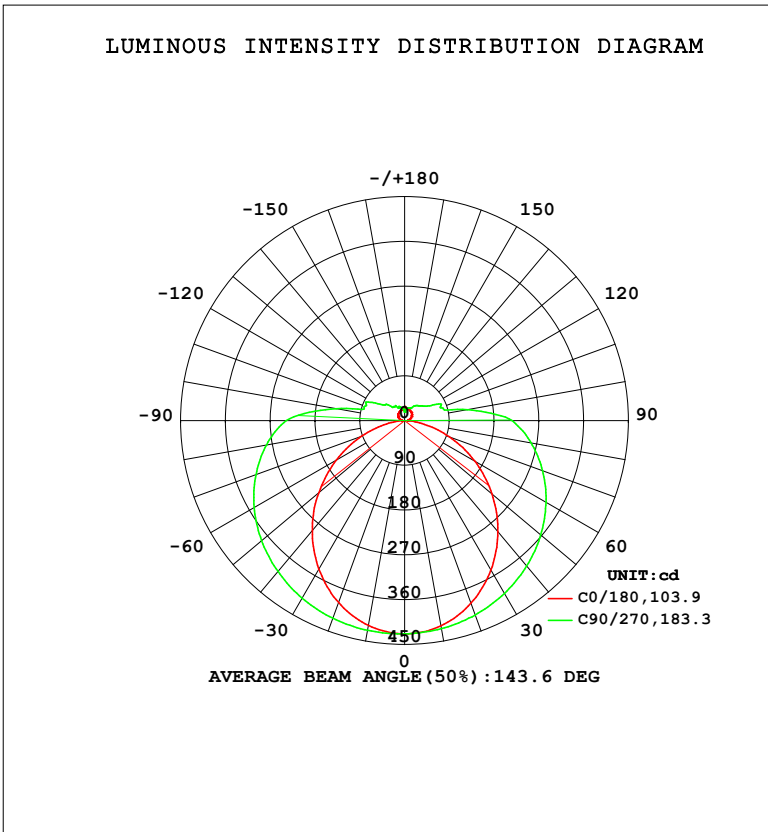


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.04V I:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 79.25 lm/W
MODEL	5000K	I <sub>max</sub> (cd)	428.7	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)	1908.9	η UP, DN (C0-180)	7.7, 41.5	
NOMINAL FLUX (lm)	1908.87	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	8.1, 42.7	
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:

$\gamma$	C0	C90	C180	C270				$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	418.9	424.6	417.9	427.8				0- 10	40.61	40.61	2.13,2.13
20	390.6	415.6	389.0	422.6				10- 20	117.2	157.8	8.27,8.27
30	347.0	401.2	344.7	412.2				20- 30	180.6	338.4	17.7,17.7
40	291.9	381.8	289.0	396.0				30- 40	224.8	563.2	29.5,29.5
50	229.4	357.3	224.8	375.3				40- 50	246.4	809.6	42.4,42.4
60	162.7	328.1	158.2	349.2				50- 60	244.8	1054	55.2,55.2
70	95.26	295.2	91.68	318.1				60- 70	222.9	1277	66.9,66.9
80	35.81	258.0	32.80	282.0				70- 80	185.7	1463	76.6,76.6
90	5.856	216.5	5.636	237.9				80- 90	144.4	1607	84.2,84.2
100	8.083	128.2	7.788	140.0				90-100	103.4	1711	89.6,89.6
110	11.83	76.97	11.72	85.22				100-110	56.11	1767	92.6,92.6
120	16.61	61.67	16.21	72.24				110-120	46.14	1813	95,95
130	19.34	46.19	17.45	50.16				120-130	32.28	1845	96.7,96.7
140	21.38	39.65	19.31	35.94				130-140	24.28	1870	97.9,97.9
150	23.05	30.82	21.04	33.50				140-150	17.83	1887	98.9,98.9
160	24.51	27.62	22.37	30.04				150-160	12.04	1899	99.5,99.5
170	24.30	22.23	22.37	25.93				160-170	7.175	1907	99.9,99.9
180	27.36	17.51	27.36	17.49				170-180	2.254	1909	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm		

Conical surface Flux(90deg): 685.12 lm

%lum = 35.9%

%lamp = 35.9%

Conical surface Flux(120deg): 1054.4 lm

%lum = 55.2%

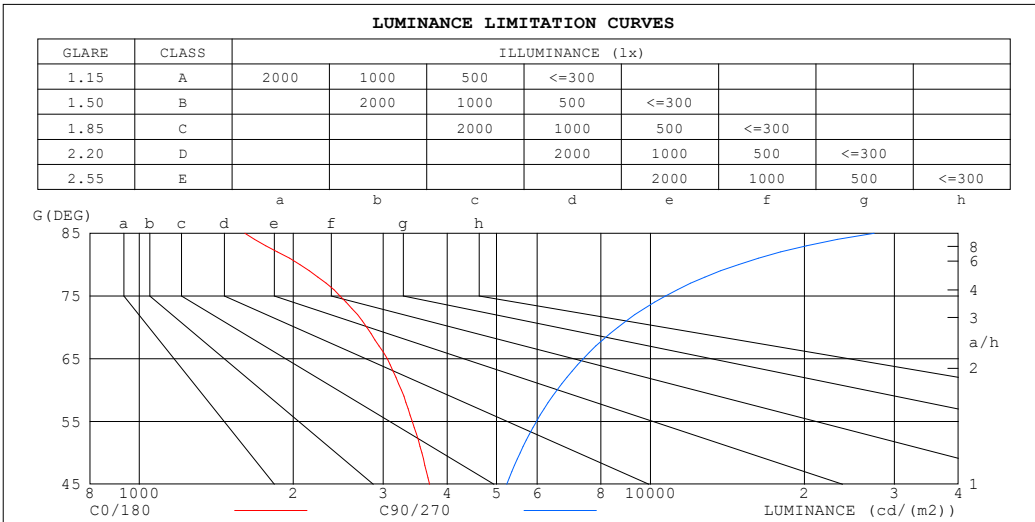
%lamp = 55.2%

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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1608	27383
80	2062	14856
75	2469	10703
70	2785	8632
65	3056	7387
60	3254	6563
55	3418	5984
50	3570	5558
45	3698	5233

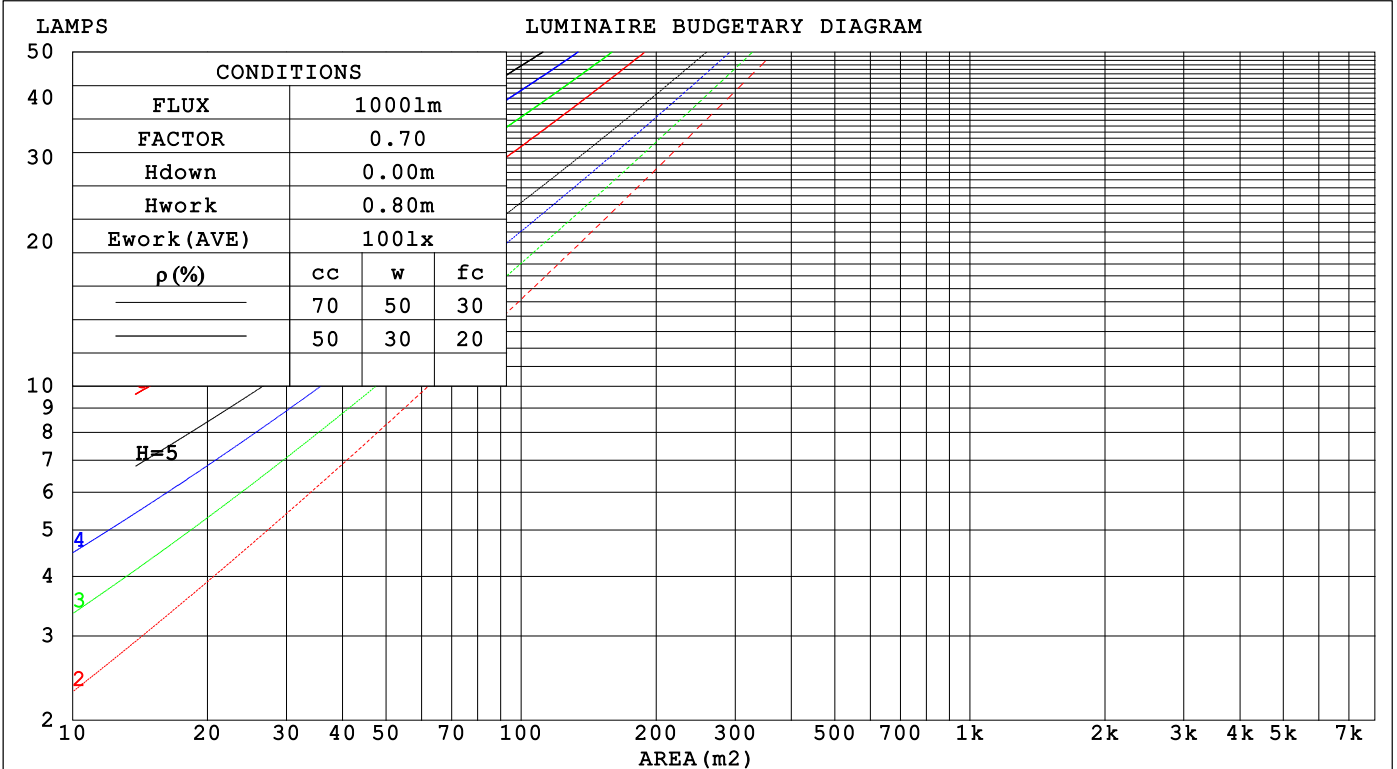
C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators: DAMIN  
 Test Date: 08 April 2026

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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	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	.65	.73	.67	.62	.67	.62	.58	.62	.58	.54	.51
3.0	.71	.62	.55	.68	.60	.53	.63	.56	.50	.58	.52	.47	.54	.49	.45	.42
4.0	.62	.53	.46	.60	.51	.45	.55	.48	.42	.51	.45	.40	.47	.42	.38	.35
5.0	.55	.46	.39	.53	.44	.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	.22
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℃  
 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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.353	.202	.065	.332	.191	.061	.313	.181	.058	
2.0	.335	.184	.056	.324	.179	.055	.304	.169	.053	.285	.160	.050	.268	.152	.048	
3.0	.298	.159	.047	.288	.154	.046	.270	.146	.044	.253	.138	.042	.237	.131	.041	
4.0	.268	.139	.041	.259	.136	.040	.243	.129	.038	.227	.122	.037	.213	.116	.035	
5.0	.244	.124	.036	.236	.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	

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.163	.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	.167	.172	.142	.117	.099	.083	.069	.032	.027	.023	
4.0	.285	.225	.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	.062	.031	.025	.020	
6.0	.270	.207	.162	.232	.179	.141	.160	.125	.100	.093	.074	.059	.030	.024	.020	
7.0	.262	.200	.157	.226	.174	.137	.156	.122	.097	.091	.072	.058	.029	.023	.019	
8.0	.256	.195	.153	.220	.169	.133	.152	.119	.094	.089	.070	.056	.029	.023	.019	
9.0	.249	.190	.150	.215	.165	.131	.149	.116	.093	.087	.068	.055	.028	.022	.018	
10.0	.244	.186	.147	.210	.161	.128	.146	.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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	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	16.1	17.5	16.6	18.0	18.5
3H	15.1	16.4	15.6	16.9	17.5	18.9	20.2	19.4	20.7	21.3
4H	15.7	16.9	16.2	17.4	18.0	20.5	21.7	21.0	22.3	22.8
6H	16.0	17.2	16.6	17.7	18.4	22.2	23.4	22.8	24.0	24.6
8H	16.1	17.3	16.7	17.8	18.4	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	14.8	16.1	15.4	16.6	17.2	16.6	17.9	17.2	18.4	19.0
3H	16.6	17.7	17.1	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	22.3	21.9	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	18.9	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	19.8	20.6	21.6	22.4	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	21.4	22.2	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	25.8	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, 1909 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.2)  
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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

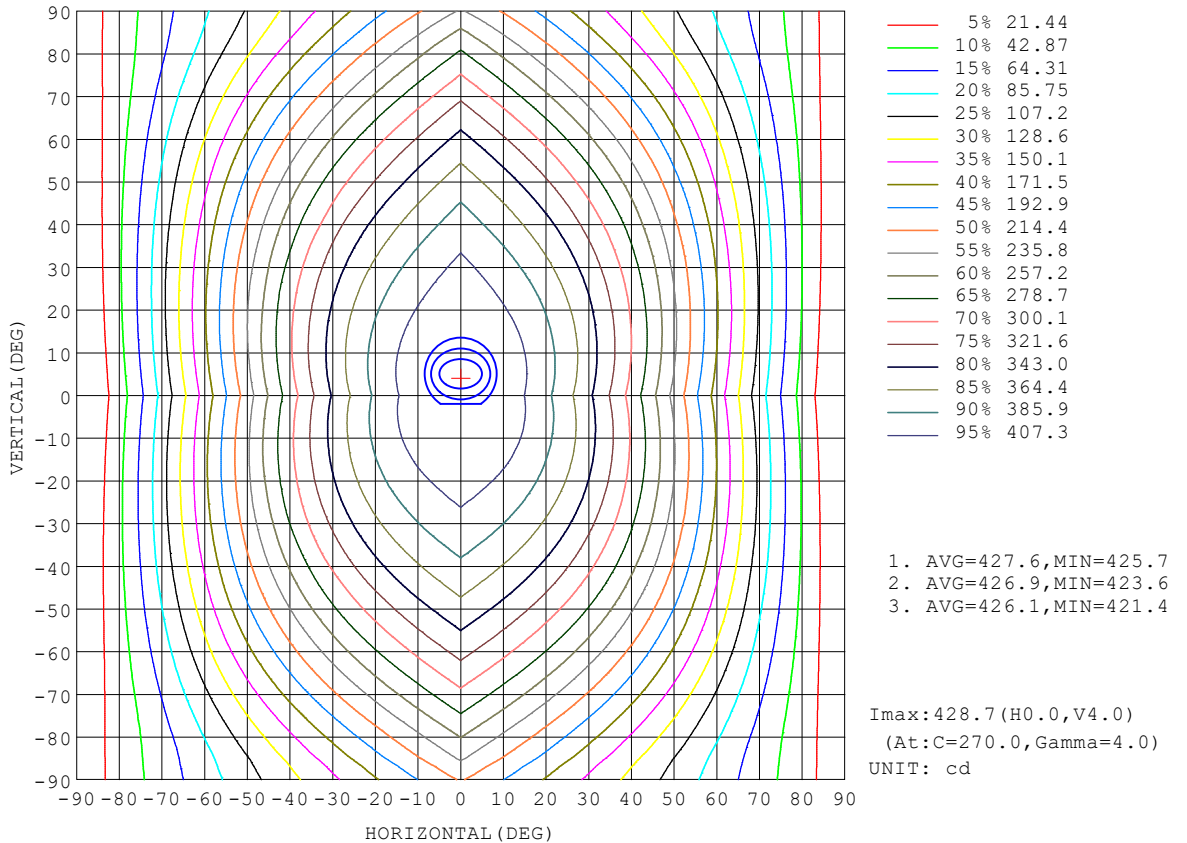
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	47	36	28	45	35	28	21
0.80	58	45	37	56	44	36	53	43	35	28
1.00	65	52	44	63	51	44	60	52	42	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	62
5.00	100	94	88	97	90	85	89	84	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

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

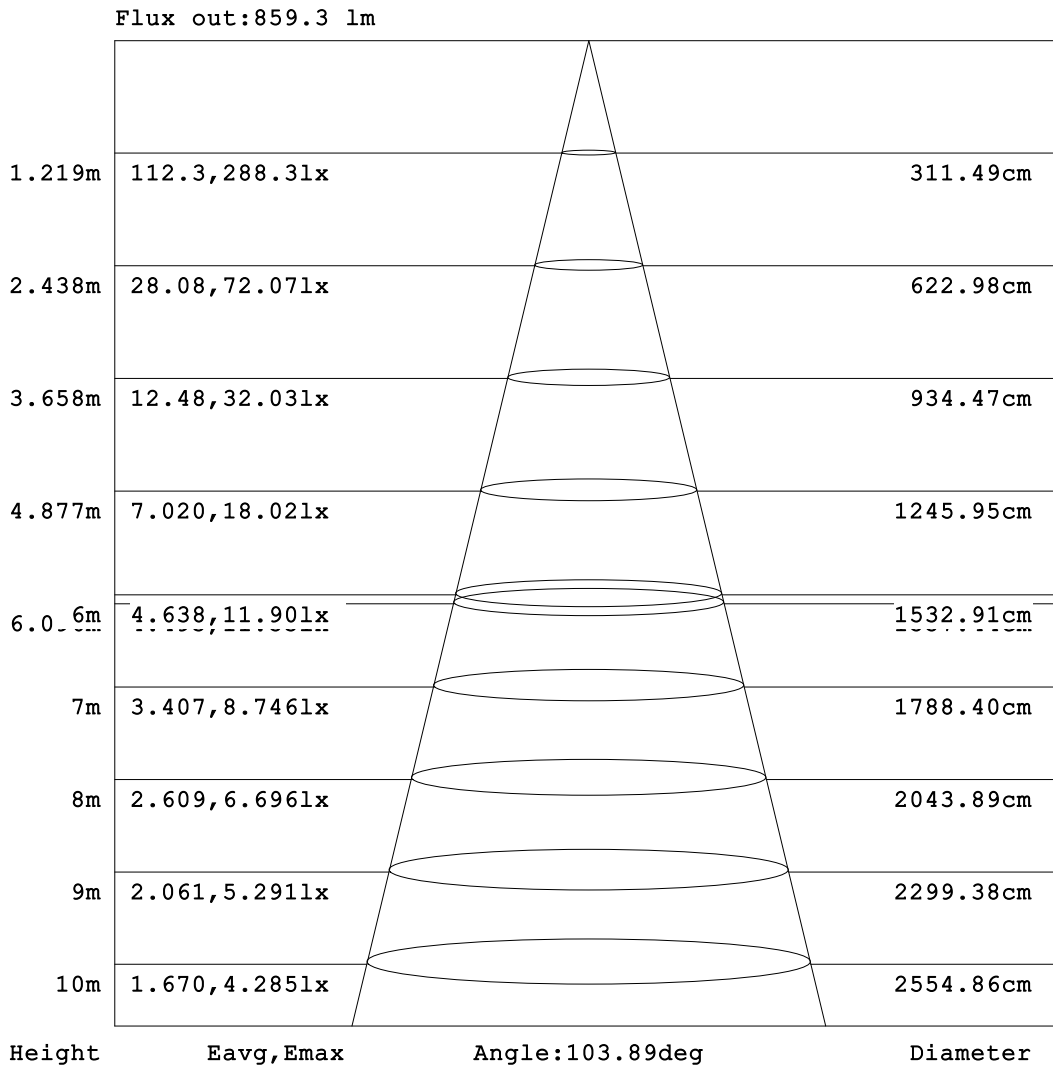


C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3 °C  
Operators:DAMIN  
Test Date:08 April 2026

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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:



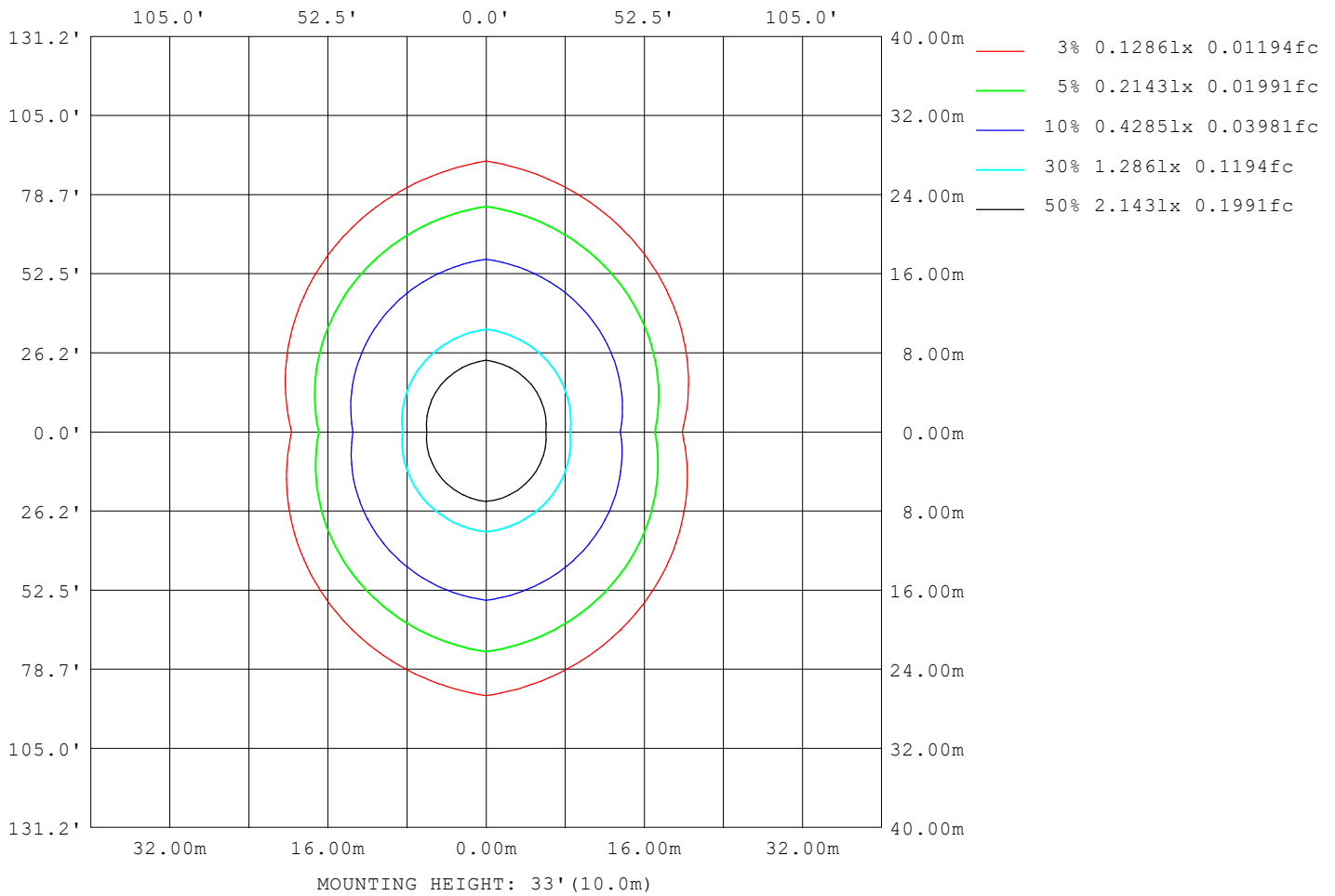
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.: 1
MFR.: EVERFINE	SUR.:	Shielding Angle:

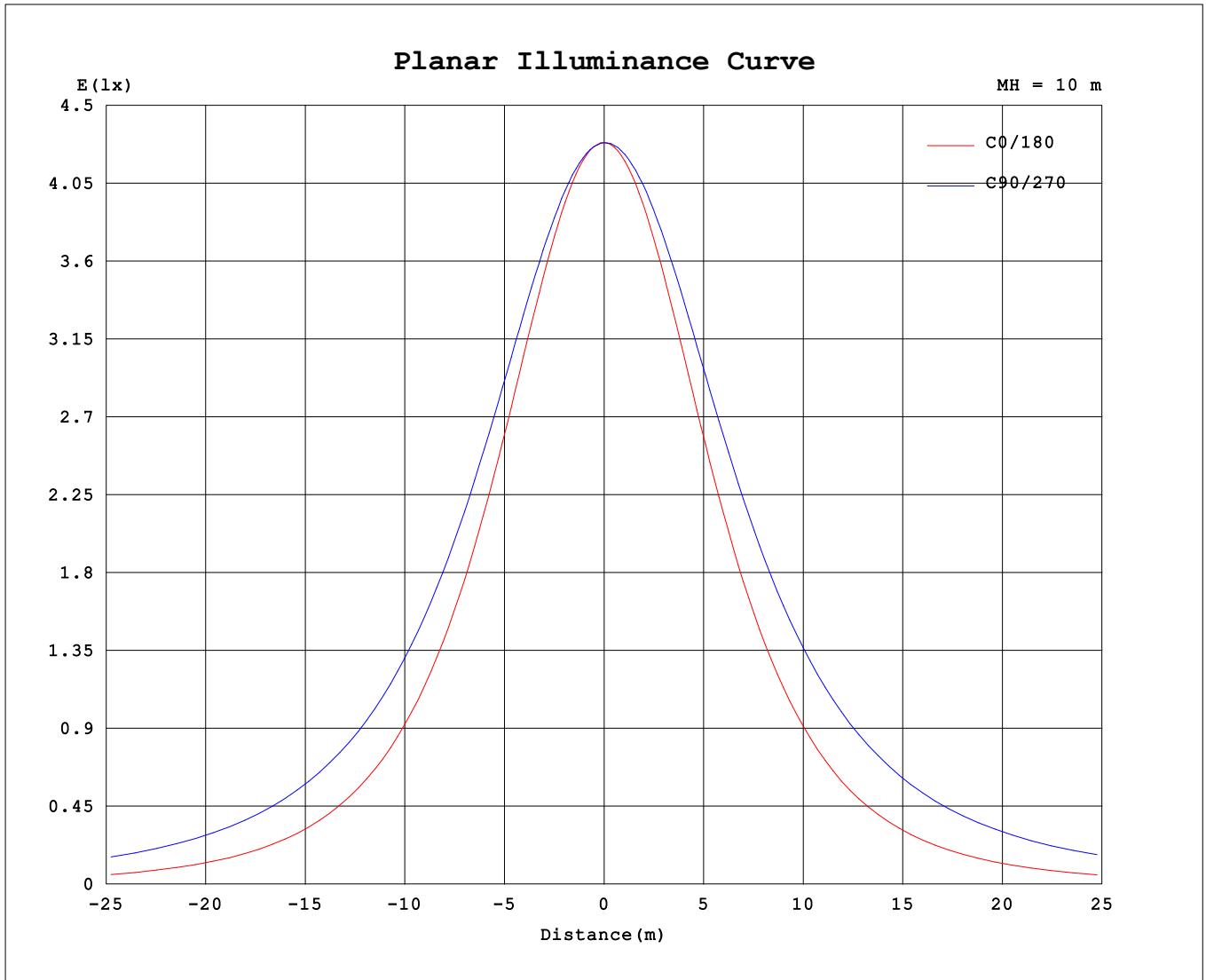
AvgL	cd/m2
L_0~180 (65) av	3002
L_0~180 (75) av	2404
L_0~180 (85) av	1483
L_90~270 (65) av	7649
L_90~270 (75) av	11163
L_90~270 (85) av	28687
L_45 (65) av	5903
L_45 (75) av	7874
L_45 (85) av	18478

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:0.2197A P:24.086W PF:0.9132 Freq:59.98Hz Lamp Flux:1908.87x1 lm		
NAME: WS24-085-BK 24W 50K	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	429	428	429	428															
5	426	427	426	429															
10	419	425	418	428															
15	407	421	406	426															
20	391	416	389	423															
25	370	409	368	418															
30	347	401	345	412															
35	320	392	318	405															
40	292	382	289	396															
45	261	370	258	386															
50	229	357	225	375															
55	196	343	192	363															
60	163	328	158	349															
65	129	312	125	334															
70	95.3	295	91.7	318															
75	63.9	277	60.5	301															
80	35.8	258	32.8	282															
85	14.0	239	11.8	261															
90	5.86	217	5.64	238															
95	6.60	174	6.48	192															
100	8.08	128	7.79	140															
105	9.83	83.5	9.50	87.9															
110	11.8	77.0	11.7	85.2															
115	14.3	79.9	14.2	86.8															
120	16.6	61.7	16.2	72.2															
125	17.5	50.8	15.6	56.5															
130	19.3	46.2	17.5	50.2															
135	20.8	42.5	18.9	43.2															
140	21.4	39.6	19.3	35.9															
145	22.1	35.8	20.2	34.1															
150	23.1	30.8	21.0	33.5															
155	23.9	28.3	21.8	29.0															
160	24.5	27.6	22.4	30.0															
165	24.9	26.4	22.7	27.3															
170	24.3	22.2	22.4	25.9															
175	27.7	18.5	25.6	23.4															
180	27.4	17.5	27.4	17.5															

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: