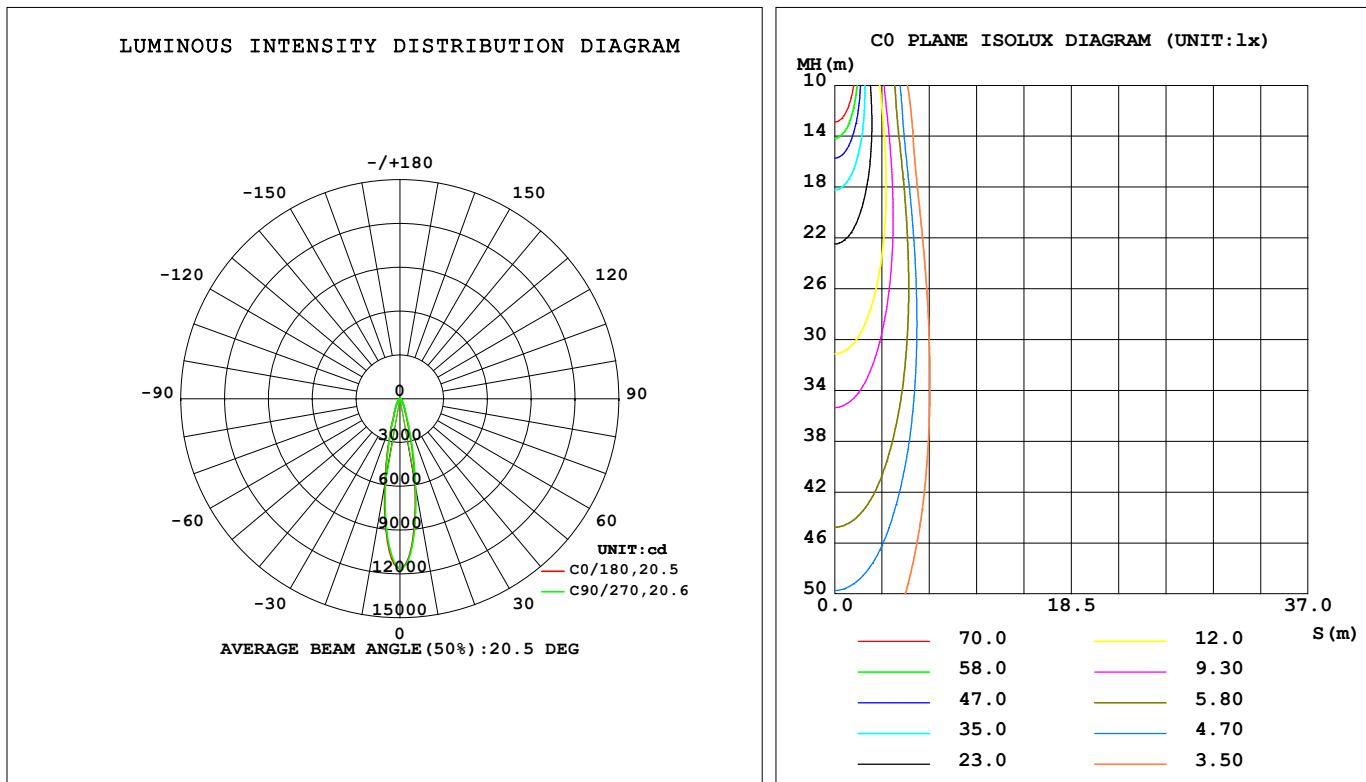


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 85.66 lm/W
MODEL	LUMINUS CXM-14	I _{max} (cd)	11626	S/MH (C0/180)	0.35	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	0.34	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	2365.4	η UP,DN (C0-180)	0.0,51.6	
NOMINAL FLUX (lm)	2365.37	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,48.4	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.00	



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	601.9	622.2	628.1	626.2	598.7	578.6	575.2	579.1	0- 10	810.2	810.2	34.3, 34.3
20	131.6	139.7	142.9	140.8	133.5	128.3	127.6	126.3	10- 20	824.4	1635	69.1, 69.1
30	51.87	54.63	55.33	54.18	52.70	52.46	52.15	51.43	20- 30	380.1	2015	85.2, 85.2
40	20.00	23.65	21.33	23.66	20.18	23.18	19.67	22.39	30- 40	219.9	2235	94.5, 94.5
50	3.097	7.601	3.276	7.663	3.048	6.587	3.034	7.190	40- 50	90.44	2325	98.3, 98.3
60	1.333	1.507	1.399	1.511	1.326	1.466	1.353	1.494	50- 60	21.91	2347	99.2, 99.2
70	0.7278	0.8656	0.7164	0.8270	0.7009	0.8464	0.7259	0.8539	60- 70	10.57	2358	99.7, 99.7
80	0.3716	0.4311	0.3702	0.4185	0.3540	0.4375	0.3970	0.4643	70- 80	5.586	2363	99.9, 99.9
90	0.0053	0.0038	0.0038	0.0041	0.0047	0.0047	0.0041	0.0044	80- 90	2.193	2365	100, 100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY: μ A10cd									UNIT: lm		

Conical surface Flux(90deg): 2295.5 lm

%lum = 97.0%

%lamp = 97.0%

Conical surface Flux(120deg): 2347 lm

%lum = 99.2%

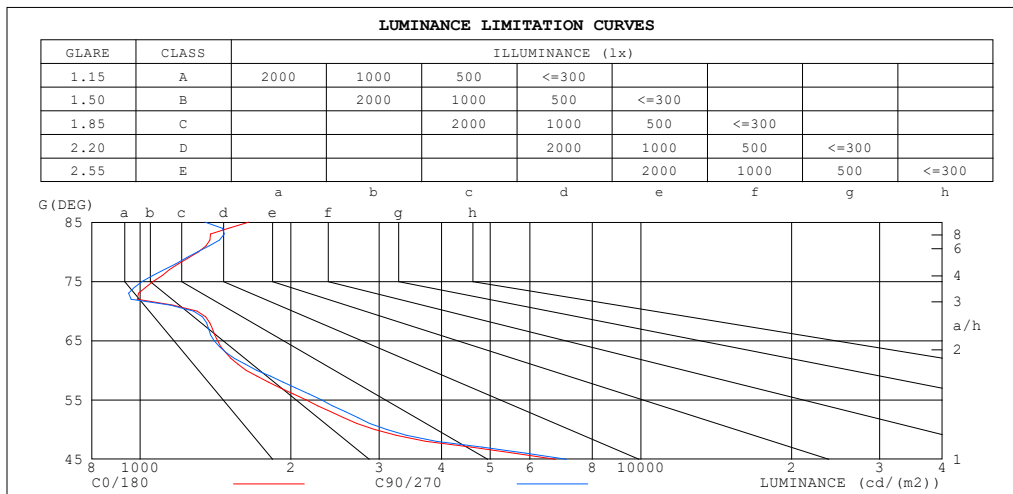
%lamp = 99.2%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 05 January 2021

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity: 65.0%
Test Distance: 7.250m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1647	1348
80	1306	1302
75	1063	1011
70	1299	1279
65	1427	1406
60	1628	1708
55	2144	2301
50	2942	3112
45	6743	7104

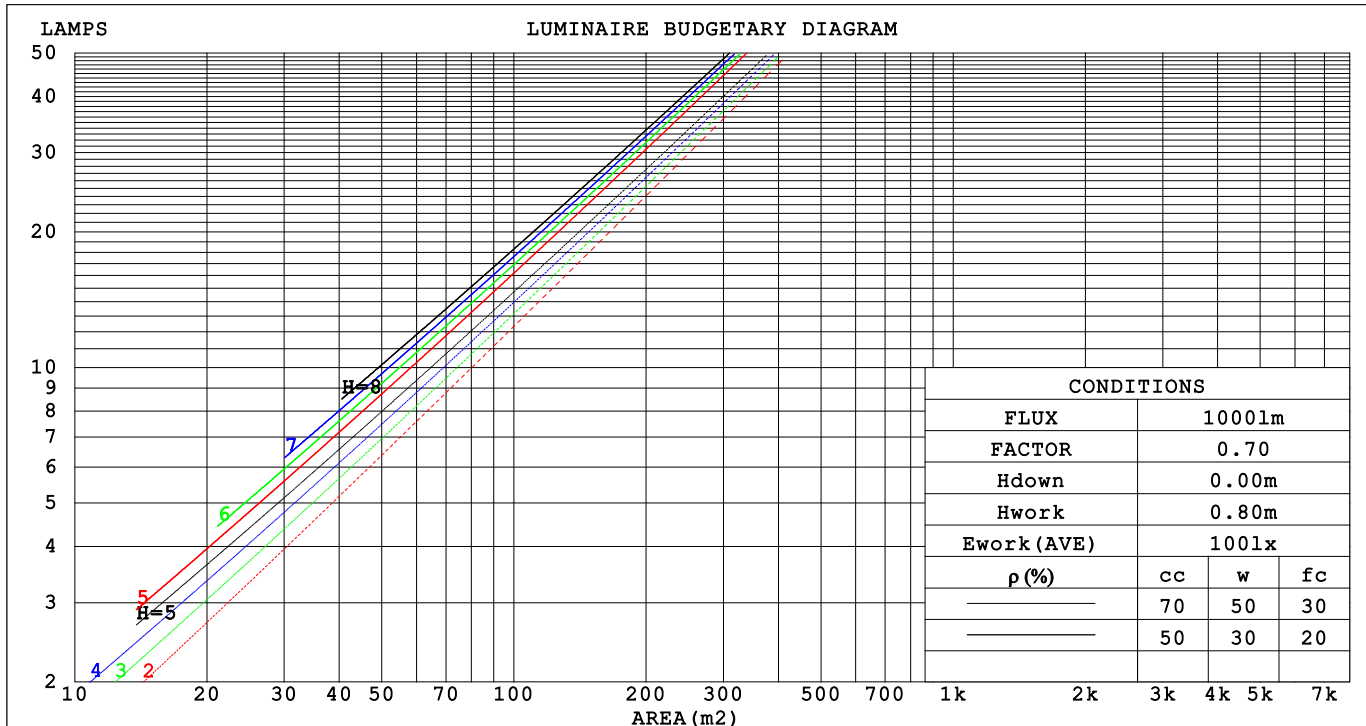
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	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															



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	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						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.149	.085	.027	.143	.081	.026	.130	.075	.024	.119	.069	.022	.108	.063	.020	
2.0	.140	.077	.023	.134	.074	.023	.124	.069	.021	.114	.064	.020	.106	.060	.019	
3.0	.131	.070	.021	.126	.068	.020	.118	.064	.019	.110	.060	.018	.102	.057	.018	
4.0	.123	.064	.019	.119	.062	.018	.112	.059	.018	.105	.056	.017	.099	.054	.016	
5.0	.116	.059	.017	.113	.058	.017	.106	.055	.016	.101	.053	.016	.095	.051	.015	
6.0	.110	.055	.016	.107	.054	.016	.102	.052	.015	.096	.050	.015	.092	.048	.014	
7.0	.104	.052	.015	.102	.051	.014	.097	.049	.014	.093	.047	.014	.088	.046	.013	
8.0	.099	.049	.014	.097	.048	.014	.093	.046	.013	.089	.045	.013	.085	.044	.013	
9.0	.095	.046	.013	.093	.045	.013	.089	.044	.012	.086	.043	.012	.082	.042	.012	
10.0	.091	.043	.012	.089	.043	.012	.086	.042	.012	.082	.041	.012	.079	.040	.011	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.099	.074	.056	.068	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.107	.076	.054	.092	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.100	.068	.046	.086	.059	.040	.059	.041	.028	.034	.024	.017	.011	.008	.006	
8.0	.093	.062	.040	.080	.053	.035	.056	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.088	.056	.035	.076	.049	.030	.052	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.083	.051	.030	.071	.045	.026	.050	.031	.019	.029	.019	.011	.009	.006	.004	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm											
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.: DARKON					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	10.3	11.0	10.5	11.2	11.3	10.3	11.1	10.5	11.2	11.4	
	3H	10.3	10.9	10.5	11.1	11.3	10.3	11.0	10.5	11.1	11.3
	4H	10.2	10.9	10.5	11.1	11.3	10.2	10.9	10.5	11.1	11.3
	6H	10.2	10.8	10.5	11.1	11.3	10.2	10.8	10.5	11.0	11.3
	8H	10.2	10.8	10.5	11.0	11.3	10.2	10.8	10.5	11.0	11.3
	12H	10.2	10.8	10.5	11.0	11.3	10.2	10.7	10.5	11.0	11.3
4H	2H	10.2	10.8	10.4	11.0	11.2	10.2	10.8	10.4	11.0	11.2
	3H	10.1	10.7	10.5	11.0	11.2	10.1	10.7	10.4	11.0	11.2
	4H	10.1	10.6	10.5	10.9	11.2	10.1	10.6	10.4	10.9	11.2
	6H	10.1	10.6	10.5	10.9	11.3	10.1	10.6	10.5	10.9	11.2
	8H	10.1	10.6	10.5	10.9	11.3	10.1	10.5	10.5	10.9	11.3
	12H	10.2	10.5	10.6	10.9	11.3	10.1	10.5	10.5	10.9	11.3
8H	4H	10.0	10.5	10.4	10.8	11.2	10.0	10.4	10.4	10.8	11.1
	6H	10.1	10.4	10.5	10.8	11.2	10.1	10.4	10.5	10.8	11.2
	8H	10.1	10.4	10.6	10.9	11.3	10.1	10.4	10.5	10.8	11.3
	12H	10.2	10.4	10.6	10.9	11.4	10.1	10.4	10.6	10.9	11.3
12H	4H	10.0	10.4	10.4	10.7	11.1	10.0	10.4	10.4	10.7	11.1
	6H	10.1	10.4	10.5	10.8	11.2	10.0	10.3	10.5	10.8	11.2
	8H	10.1	10.4	10.6	10.8	11.3	10.1	10.4	10.6	10.8	11.3
Variations with the observer position at spacings:											
S = 1.0H	+ 2.1 / - 5.3					+ 2.2 / - 5.4					
1.5H	+ 3.5 / - 5.1					+ 3.9 / - 5.0					
2.0H	+ 4.4 / - 2.4					+ 3.8 / - 2.0					

CIE Pub.117, 2365 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 3.0)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

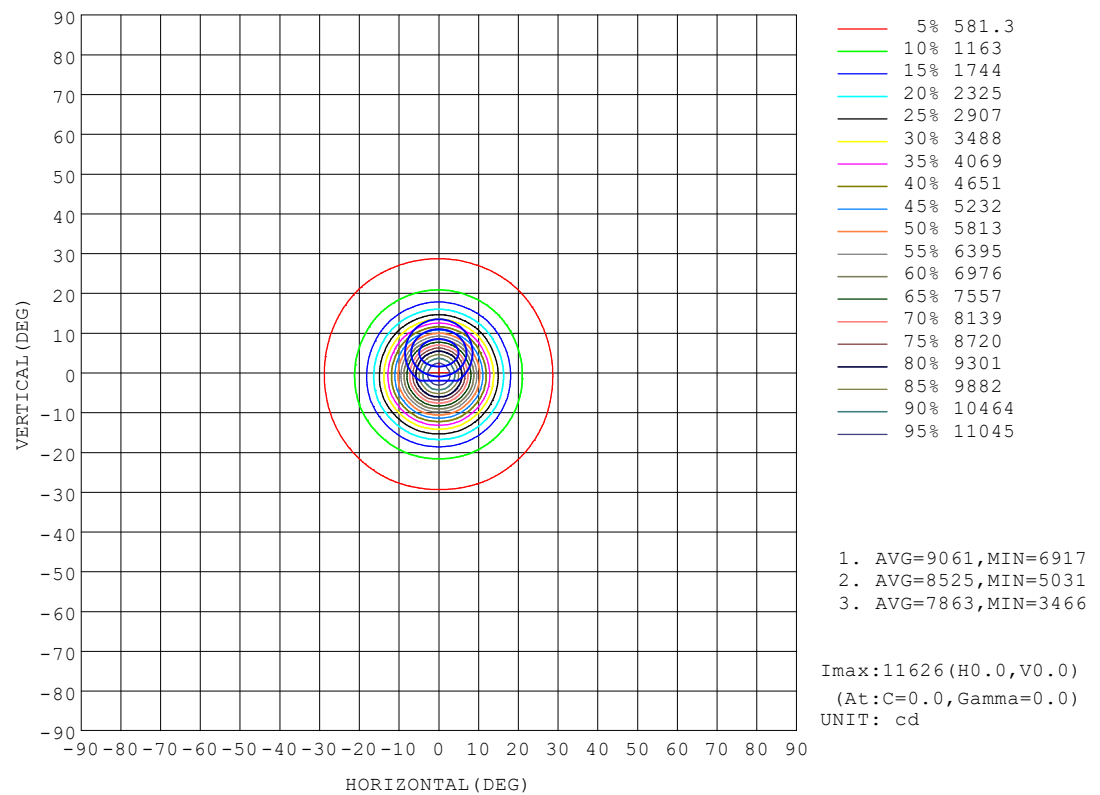
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	88	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	86	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	109	108	106	99
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:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

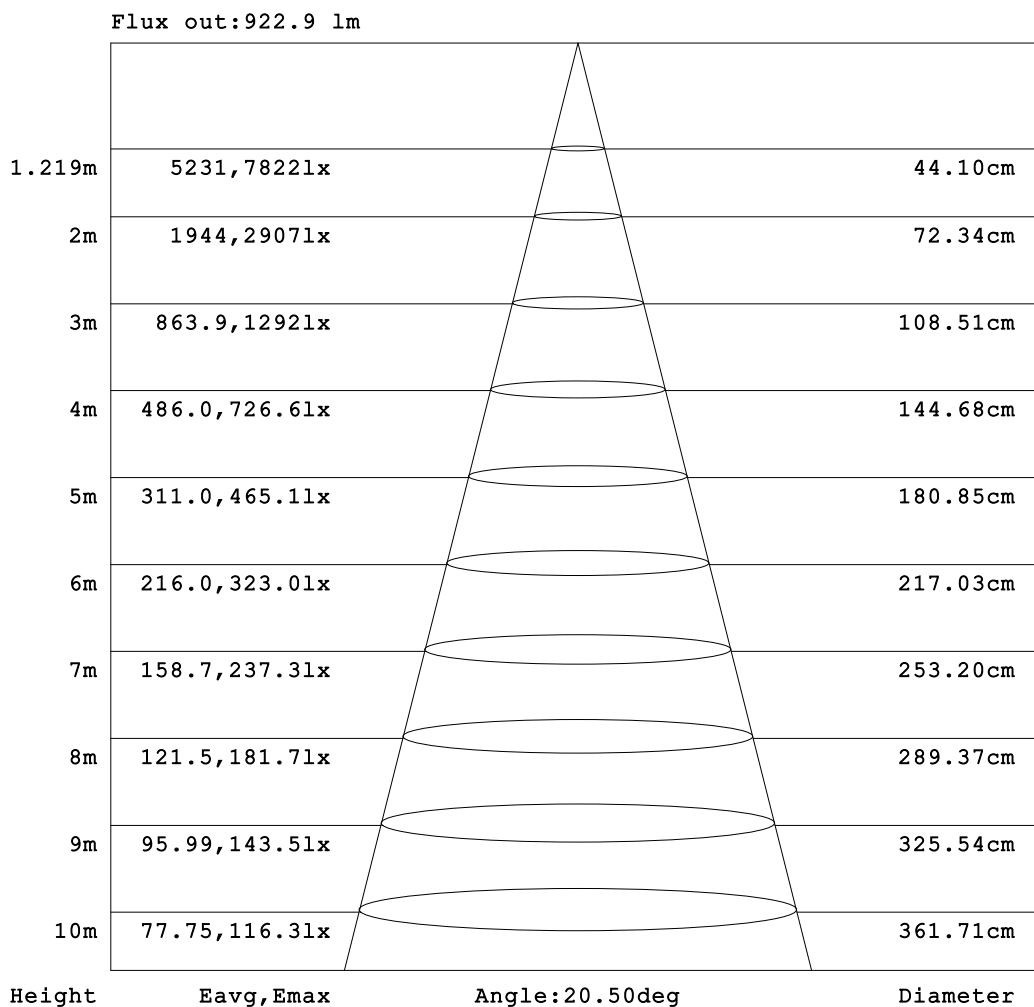


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

AAI Figure

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



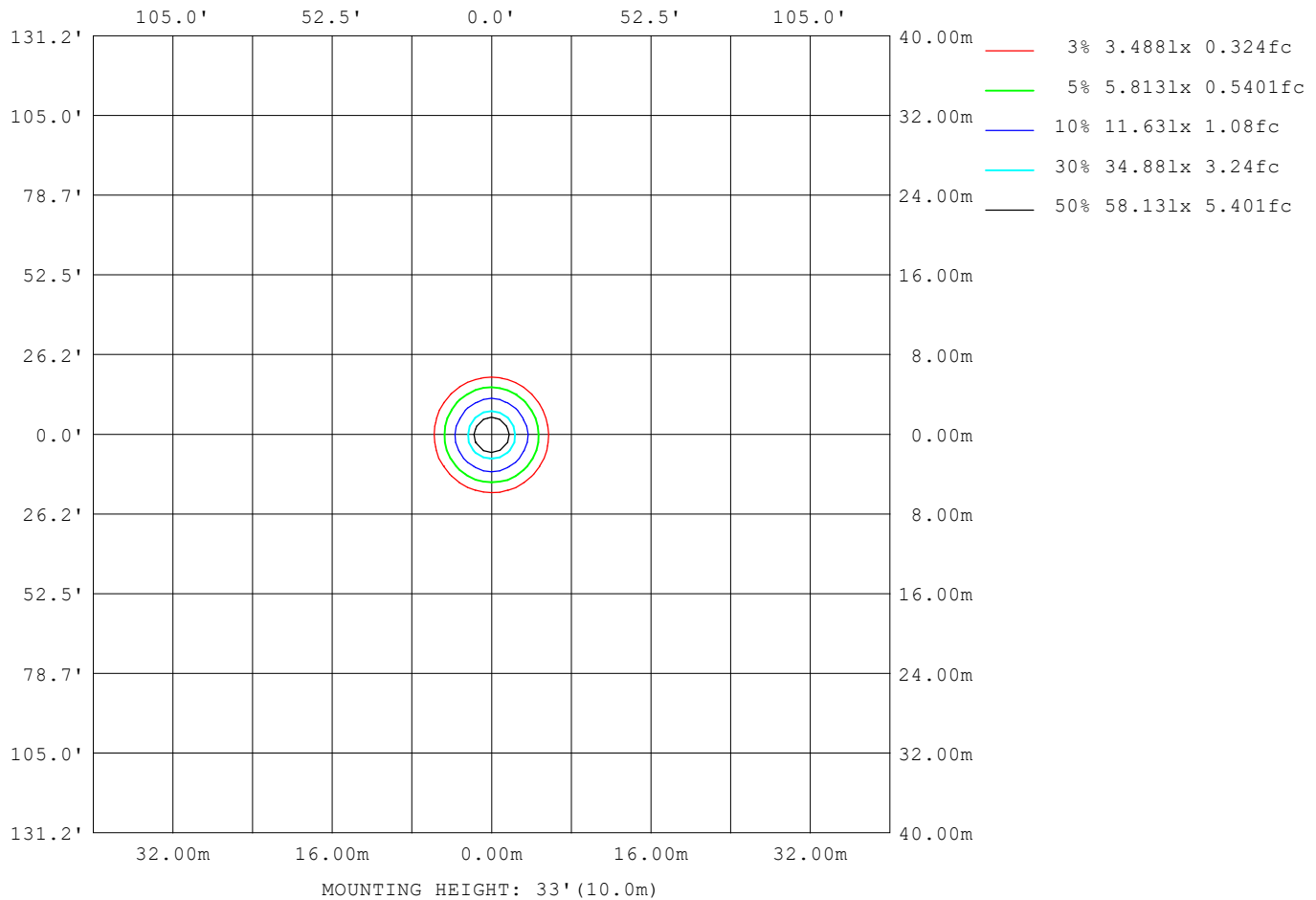
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:239.80V I:0.1223A P:27.612W PF:0.9413 Freq:50.09Hz Lamp Flux:2365.37x1 lm		
NAME: SWARM ONE_WHT_3000K_24 DEG_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

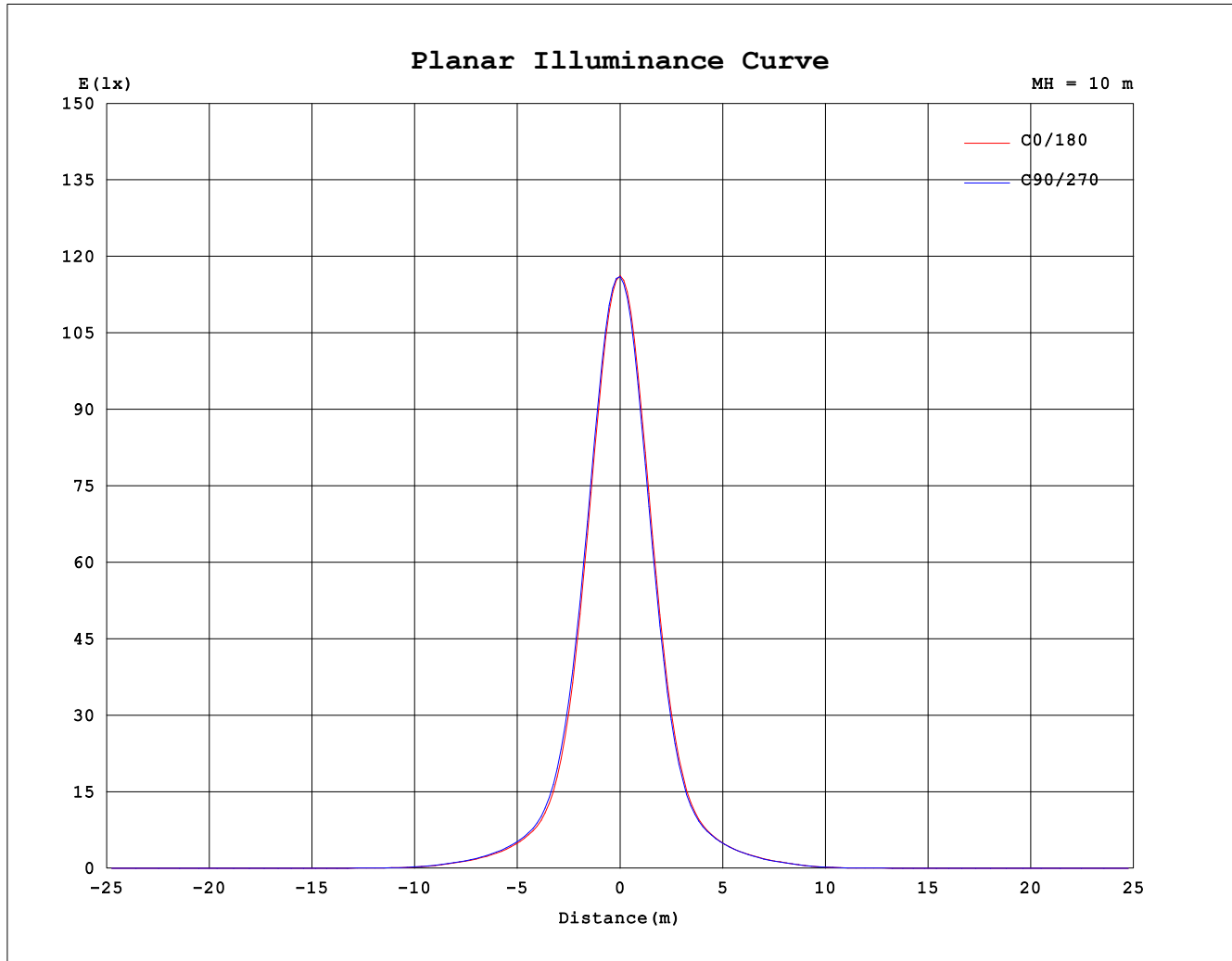
AvgL	cd/m2
L_0~180 (65) av	1409
L_0~180 (75) av	1021
L_0~180 (85) av	1545
L_90~270 (65) av	1418
L_90~270 (75) av	1051
L_90~270 (85) av	1371
L_45 (65) av	1527
L_45 (75) av	1227
L_45 (85) av	1557

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:05 January 2021

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 05 January 2021

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity: 65.0%
Test Distance: 7.250m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

```