

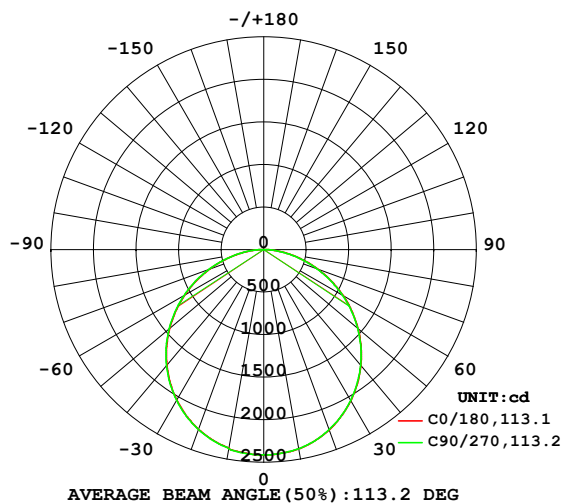
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:239.8V I:0.3059A P:72.06W PF:0.9822 Lamp Flux:6987.77x1 lm		
NAME: MRS SPIN 900_NA_WHT_550mA_3000K CRI80		
MFR.: DARKON		

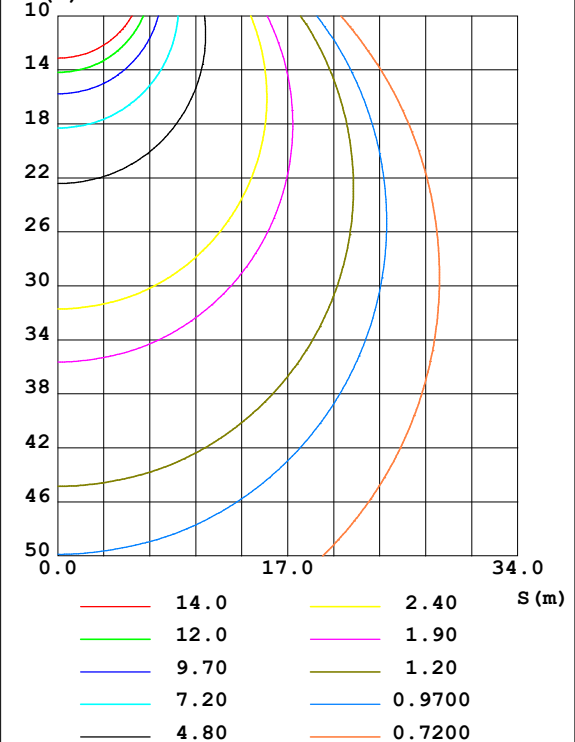
CLE Quadra

DATA OF LAMP		PHOTOMETRIC DATA Eff: 96.97 lm/W			
MODEL	401mm 2500lm 830 ADV	Imax(cd)	2414	S/MH(C0/180)	1.26
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.26
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	6987.8	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	6987.77	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.892m [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
5	2403	2401	2402	2403	2403	2403	2405	2404	0- 5	57.57	57.57	0.82,0.82
10	2378	2374	2376	2377	2367	2382	2375	2374	5- 10	171.0	228.6	3.27,3.27
15	2327	2323	2325	2325	2318	2321	2320	2319	10- 15	278.5	507.1	7.26,7.26
20	2253	2249	2251	2251	2245	2249	2249	2247	15- 20	376.8	883.9	12.6,12.6
25	2161	2156	2158	2158	2154	2158	2158	2155	20- 25	462.2	1346	19.3,19.3
30	2049	2045	2046	2047	2043	2048	2048	2045	25- 30	531.9	1878	26.9,26.9
35	1921	1916	1917	1918	1915	1921	1921	1918	30- 35	583.8	2462	35.2,35.2
40	1777	1772	1772	1774	1772	1778	1779	1776	35- 40	616.2	3078	44,44
45	1619	1613	1613	1615	1615	1622	1622	1619	40- 45	628.0	3706	53,53
50	1449	1443	1443	1444	1444	1452	1453	1450	45- 50	619.1	4325	61.9,61.9
55	1268	1261	1260	1262	1263	1272	1273	1269	50- 55	589.8	4915	70.3,70.3
60	1078	1068	1067	1069	1074	1082	1084	1080	55- 60	541.2	5456	78.1,78.1
65	877.0	869.5	868.8	870.5	877.6	886.7	888.1	884.9	60- 65	474.3	5930	84.9,84.9
70	679.8	671.7	670.8	672.8	679.9	688.7	690.1	687.2	65- 70	394.2	6324	90.5,90.5
75	484.6	476.7	475.9	478.1	484.7	493.3	494.6	491.9	70- 75	304.0	6628	94.9,94.9
80	299.5	291.9	291.3	293.6	299.8	307.4	308.5	306.0	75- 80	209.2	6838	97.9,97.9
85	131.8	125.5	125.3	127.6	132.7	139.3	140.2	137.9	80- 85	116.3	6954	99.5,99.5
90	1.999	1.977	1.988	1.988	2.567	4.795	4.651	3.110	85- 90	33.77	6988	100,100
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 3706 lm

%lum = 53.0%

%lamp = 53.0%

Conical surface Flux(120deg): 5456 lm

%lum = 78.1%

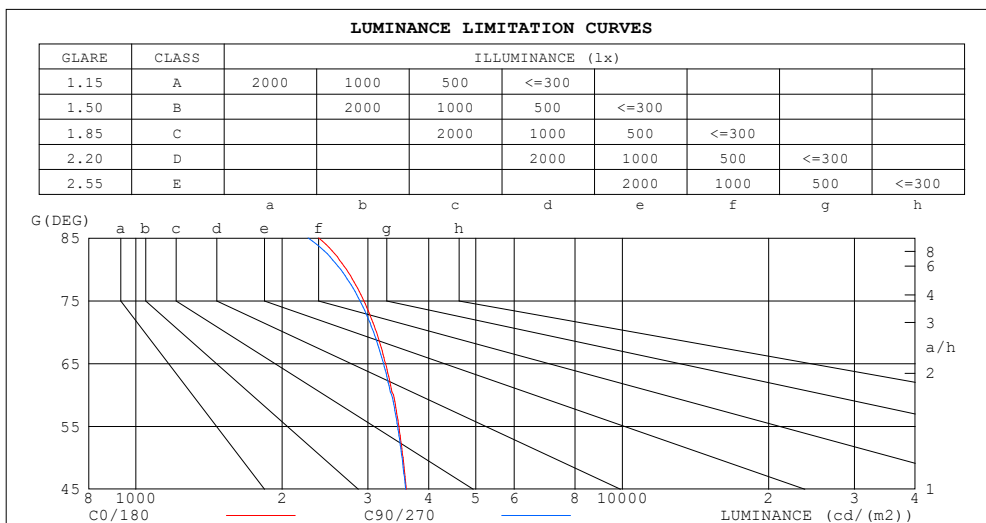
%lamp = 78.1%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.892m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:239.8V I:0.3059A P:72.06W PF:0.9822 Lamp Flux:6987.77x1 lm		
NAME: MRS SPIN 900_NA_WHT_550mA_3000K CRI80		
MFR.: DARKON		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2377	2260
80	2711	2637
75	2943	2890
70	3124	3082
65	3261	3231
60	3387	3354
55	3473	3453
50	3543	3528
45	3599	3586

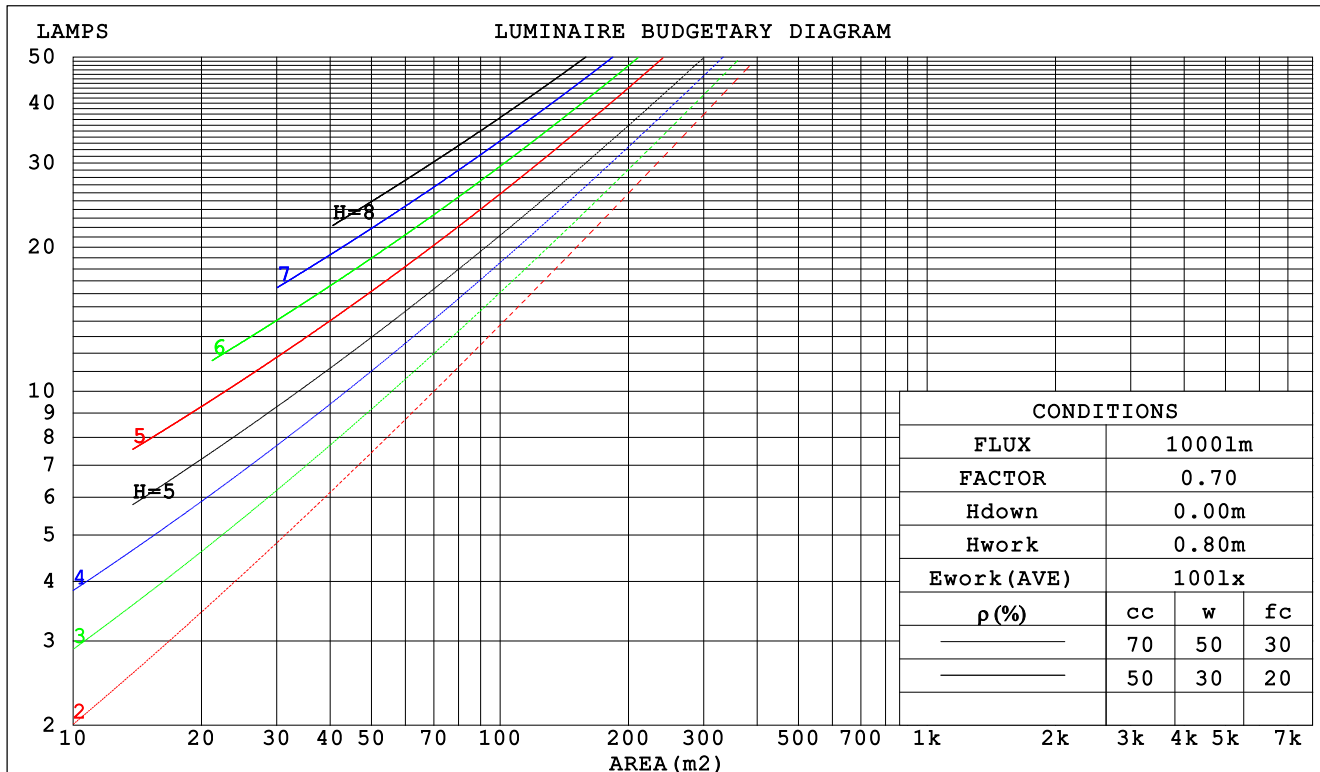
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γ Interval: 0.5DEG
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Humidity:65.0%
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CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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NAME: MRS SPIN 900_NA_WHT_550mA_3000K CRI80		
MFR.: DARKON		

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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	.00
1.0	1.04	.99	.95	1.01	.97	.94	.97	.94	.91	.93	.90	.88	.90	.87	.85	.83
2.0	.90	.83	.77	.88	.82	.76	.85	.79	.75	.81	.77	.73	.78	.75	.71	.69
3.0	.79	.71	.64	.77	.70	.64	.74	.68	.62	.72	.66	.61	.69	.64	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.61	.56	.52	.49
5.0	.62	.53	.47	.61	.53	.46	.59	.52	.46	.57	.50	.45	.55	.49	.45	.43
6.0	.56	.47	.41	.55	.47	.40	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.48	.41	.35	.47	.40	.35	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.37	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.28	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



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Humidity:65.0%
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Remarks:

WEC AND CCEC

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NAME: MRS SPIN 900_NA_WHT_550mA_3000K CRI80											
MFR.: DARKON											

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	.315	.179	.057	.308	.175	.056	.294	.169	.054	.282	.163	.052	.271	.157	.051	
2.0	.295	.162	.050	.289	.159	.049	.277	.154	.048	.266	.149	.047	.256	.145	.046	
3.0	.272	.145	.043	.267	.143	.043	.256	.139	.042	.247	.135	.041	.238	.132	.041	
4.0	.251	.130	.038	.246	.129	.038	.237	.126	.038	.228	.123	.037	.220	.120	.036	
5.0	.232	.118	.034	.227	.117	.034	.219	.114	.034	.212	.112	.033	.205	.109	.033	
6.0	.215	.108	.031	.211	.107	.031	.204	.104	.030	.197	.102	.030	.190	.100	.030	
7.0	.200	.099	.028	.196	.098	.028	.190	.096	.028	.184	.094	.027	.178	.092	.027	
8.0	.186	.091	.026	.183	.090	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.084	.024	.172	.084	.024	.167	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.021	

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	.181	.156	.134	.155	.134	.115	.106	.092	.080	.061	.053	.046	.019	.017	.015	
2.0	.173	.132	.098	.148	.114	.084	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.074	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.892m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:239.8V I:0.3059A P:72.06W PF:0.9822 Lamp Flux:6987.77x1 lm										
NAME: MRS SPIN 900_NA_WHT_550mA_3000K CRI80										
MFR.: DARKON										
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	17.2	18.7	17.4	18.9	19.1	17.1	18.7	17.4	18.9	19.1
3H	18.7	20.1	19.0	20.4	20.6	18.7	20.1	19.0	20.3	20.6
4H	19.4	20.7	19.7	21.0	21.2	19.3	20.7	19.6	20.9	21.2
6H	19.8	21.1	20.2	21.4	21.7	19.8	21.0	20.1	21.3	21.6
8H	20.0	21.2	20.3	21.5	21.8	19.9	21.1	20.3	21.4	21.7
12H	20.1	21.3	20.4	21.6	21.9	20.0	21.2	20.4	21.5	21.8
4H 2H	17.8	19.1	18.1	19.4	19.6	17.8	19.1	18.1	19.4	19.6
3H	19.5	20.7	19.9	21.0	21.3	19.5	20.7	19.8	21.0	21.3
4H	20.3	21.4	20.7	21.7	22.0	20.2	21.3	20.6	21.6	22.0
6H	20.9	21.9	21.3	22.2	22.6	20.8	21.8	21.2	22.1	22.5
8H	21.1	22.0	21.5	22.4	22.8	21.0	21.9	21.4	22.3	22.7
12H	21.2	22.1	21.7	22.5	22.9	21.2	22.0	21.6	22.4	22.8
8H 4H	20.6	21.5	21.0	21.8	22.2	20.5	21.4	20.9	21.8	22.2
6H	21.3	22.1	21.8	22.5	22.9	21.3	22.0	21.7	22.4	22.8
8H	21.6	22.3	22.1	22.7	23.2	21.6	22.2	22.0	22.6	23.1
12H	21.8	22.4	22.3	22.9	23.3	21.8	22.3	22.3	22.8	23.3
12H 4H	20.6	21.4	21.0	21.8	22.2	20.5	21.4	21.0	21.7	22.2
6H	21.4	22.0	21.8	22.5	22.9	21.3	22.0	21.8	22.4	22.9
8H	21.7	22.3	22.2	22.7	23.2	21.7	22.2	22.1	22.7	23.2
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 6988 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.8)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
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γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.892m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:239.8V I:0.3059A P:72.06W PF:0.9822 Lamp Flux:6987.77x1 lm		
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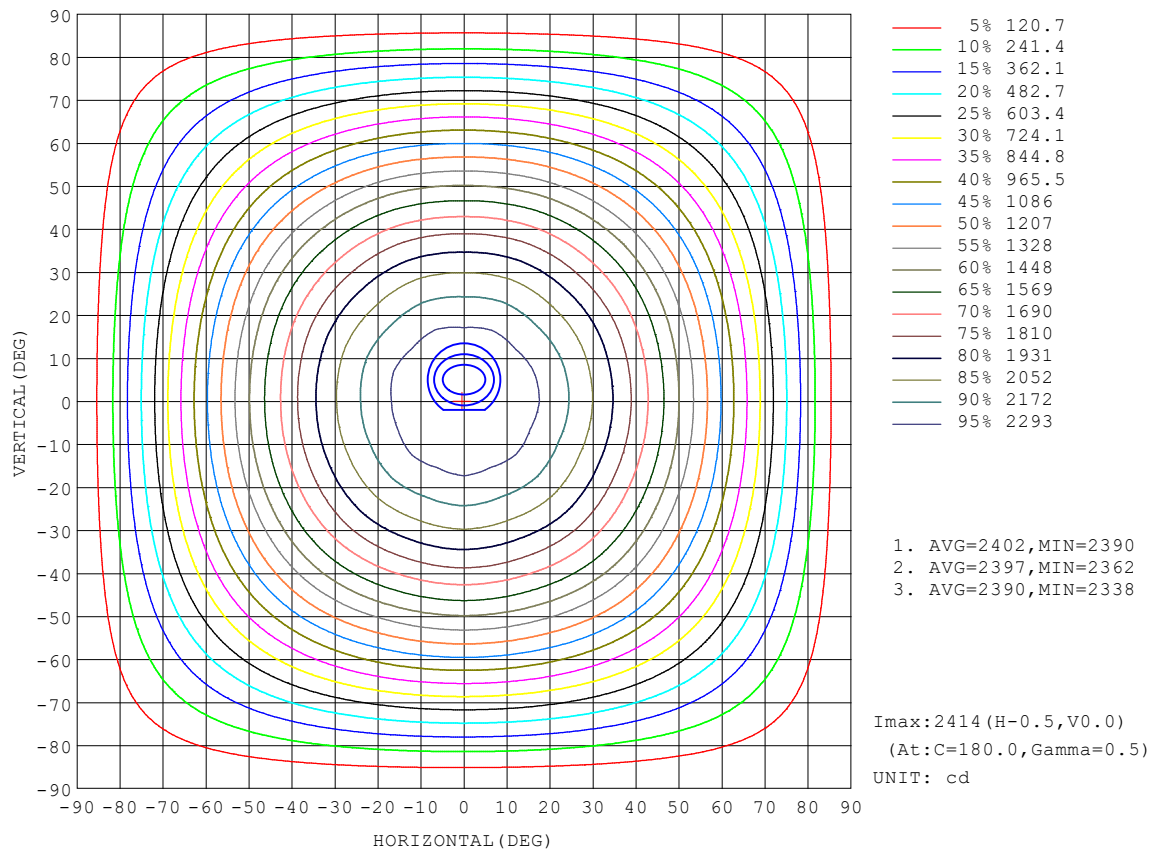
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	56	45	38	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	65	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	91	86	78
4.00	106	100	95	104	98	94	99	95	91	83
5.00	108	104	99	106	102	98	101	98	95	86
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

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ISOCANDELA DIAGRAM

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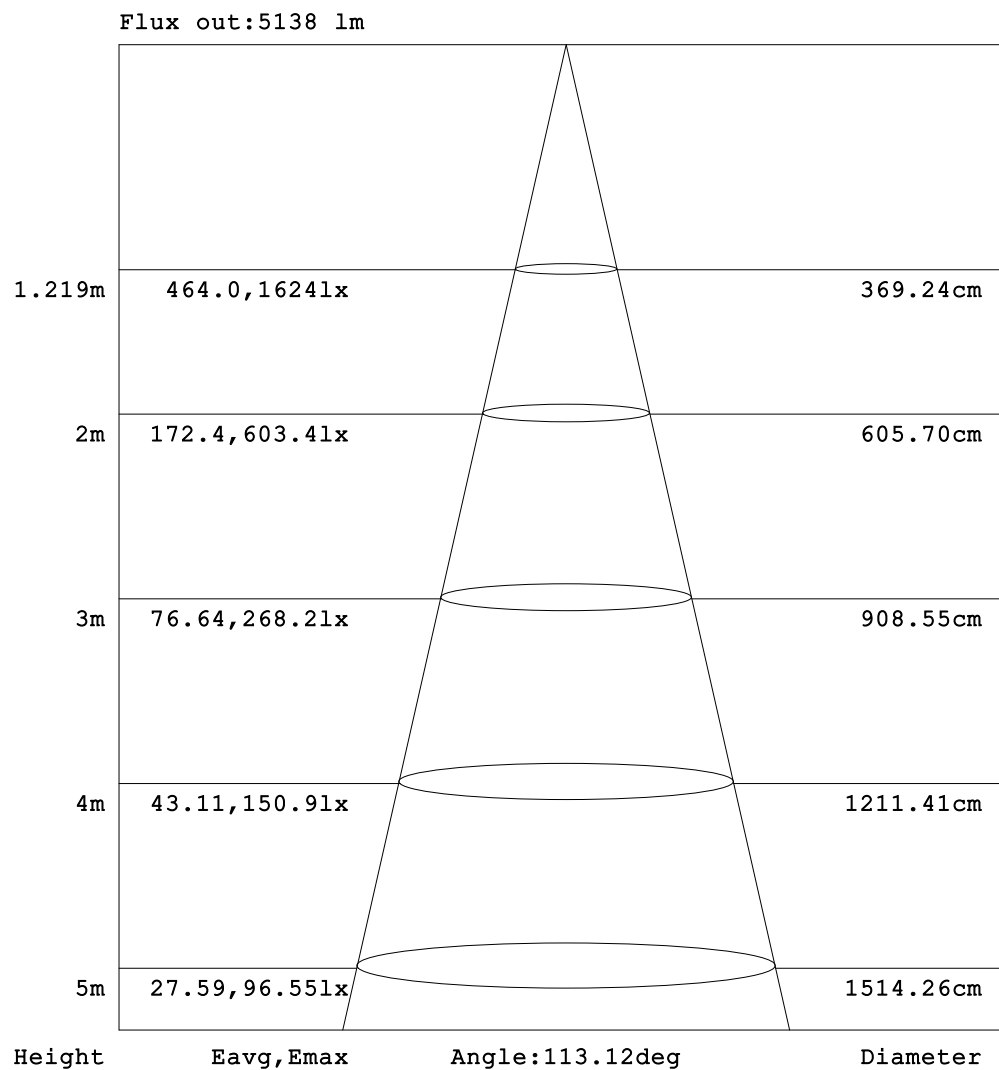


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AAI Figure

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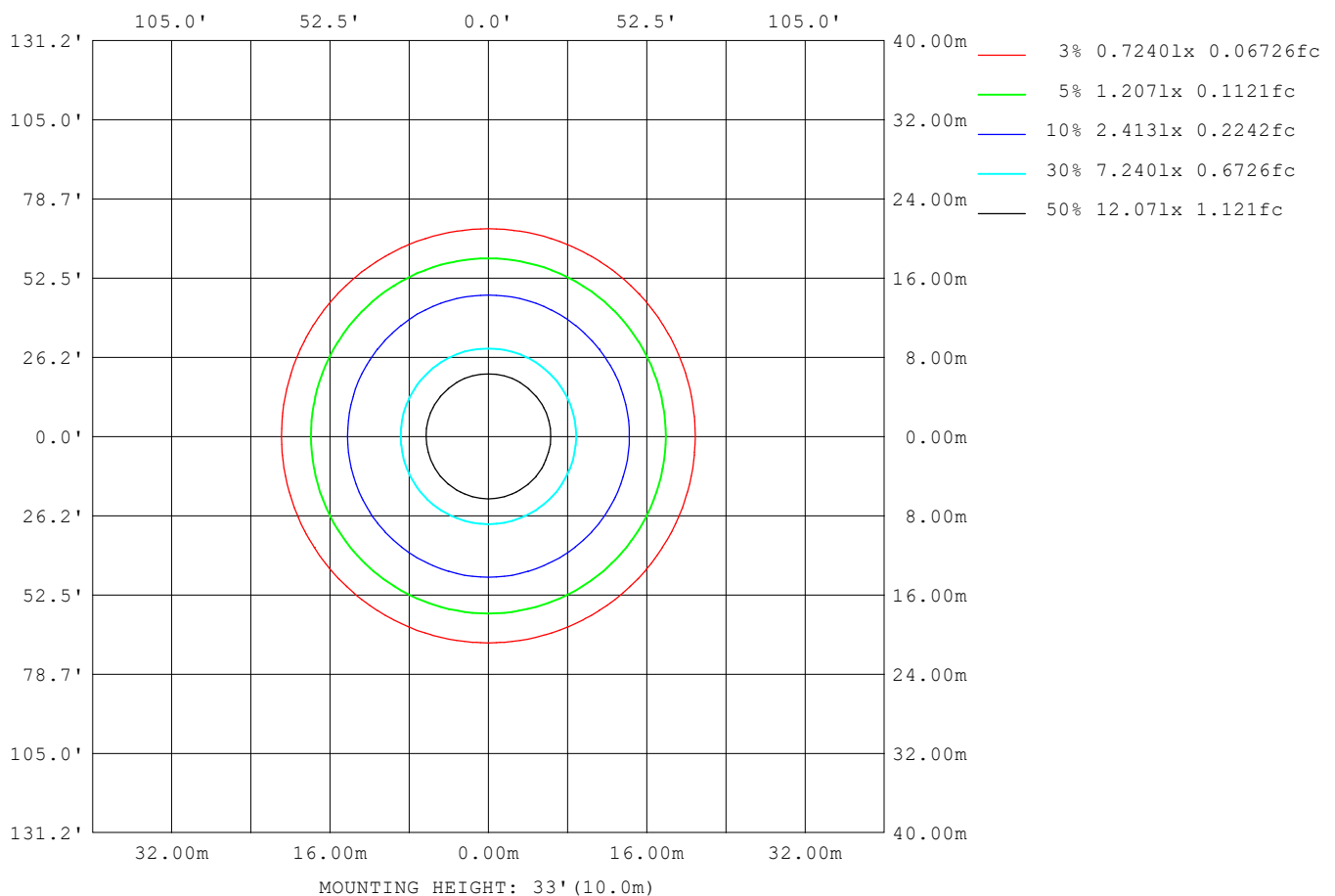
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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ISOLUX DIAGRAM

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LED Avg.L Report

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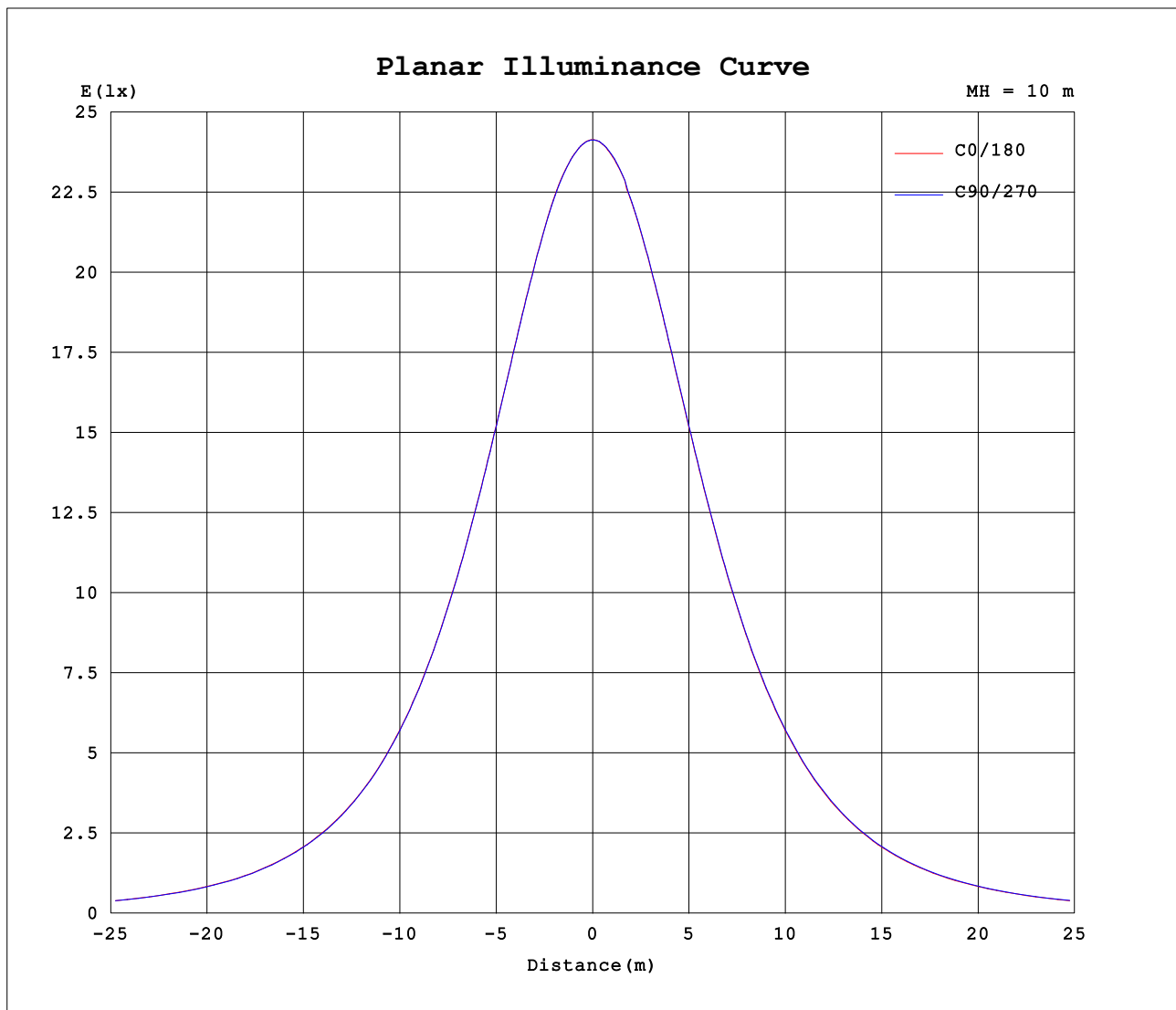
AvgL	cd/m2
L_0~180 (65) av	3262
L_0~180 (75) av	2943
L_0~180 (85) av	2385
L_90~270 (65) av	3267
L_90~270 (75) av	2947
L_90~270 (85) av	2394
L_45 (65) av	3265
L_45 (75) av	2945
L_45 (85) av	2390

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.892m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature: 25.3DEG
Operators: JEFF
Test Date: 14 July 2023

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 7.892m [K=1.0000]
Remarks:

