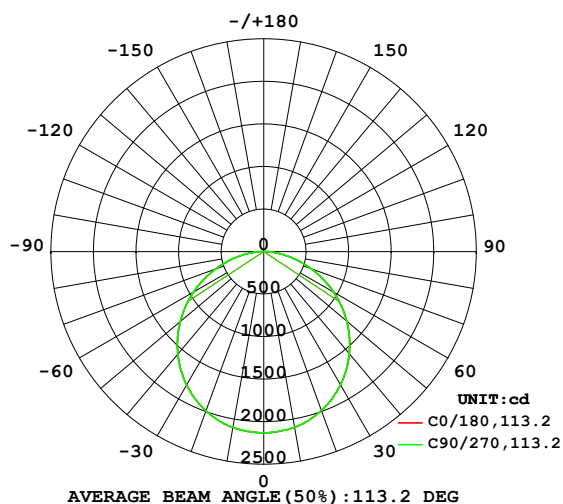


LUMINAIRE PHOTOMETRIC TEST REPORT

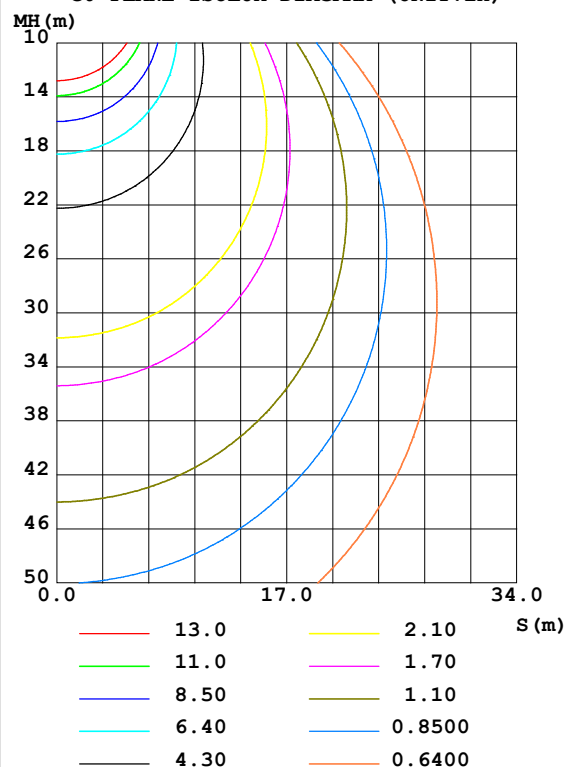
Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.15 lm/W			
CLE Quadra 401mm 2500lm 840 ADV		Imax(cd)	2130	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)	6174.7	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	6174.69	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:10 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	2120	2120	2119	2120	2121	2121	2121	2120	0- 5	50.81	50.81	0.82,0.82
10	2096	2096	2096	2098	2100	2099	2098	2099	5- 10	150.9	201.7	3.27,3.27
15	2052	2050	2052	2054	2056	2055	2055	2055	10- 15	246.3	448.0	7.26,7.26
20	1988	1986	1987	1989	1991	1992	1991	1991	15- 20	333.2	781.2	12.7,12.7
25	1906	1903	1905	1907	1910	1911	1910	1910	20- 25	408.7	1190	19.3,19.3
30	1807	1805	1806	1808	1812	1814	1813	1811	25- 30	470.4	1660	26.9,26.9
35	1694	1691	1692	1695	1699	1701	1700	1699	30- 35	516.2	2177	35.2,35.2
40	1566	1563	1564	1567	1572	1575	1574	1571	35- 40	544.8	2721	44.1,44.1
45	1427	1423	1423	1428	1432	1436	1435	1432	40- 45	555.2	3276	53.1,53.1
50	1276	1272	1272	1276	1282	1286	1284	1281	45- 50	547.1	3824	61.9,61.9
55	1116	1111	1111	1116	1121	1125	1124	1121	50- 55	521.1	4345	70.4,70.4
60	947.4	942.1	942.5	947.5	953.0	957.5	956.3	953.1	55- 60	477.9	4823	78.1,78.1
65	773.7	768.2	768.7	773.8	779.3	784.0	782.8	779.4	60- 65	419.5	5242	84.9,84.9
70	598.2	592.8	593.7	598.3	603.8	608.5	607.3	603.8	65- 70	348.4	5590	90.5,90.5
75	425.2	420.2	421.2	425.4	430.5	435.2	434.1	430.4	70- 75	268.4	5859	94.9,94.9
80	261.4	256.8	257.9	261.7	266.2	270.4	269.5	266.1	75- 80	184.3	6043	97.9,97.9
85	114.1	110.2	111.1	114.6	118.2	121.7	120.6	117.6	80- 85	102.1	6145	99.5,99.5
90	1.782	1.753	1.757	1.801	2.391	3.624	2.919	2.045	85- 90	29.49	6175	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): 3276.4 lm

%lum = 53.1%

%lamp = 53.1%

Conical surface Flux(120deg): 4822.5 lm

%lum = 78.1%

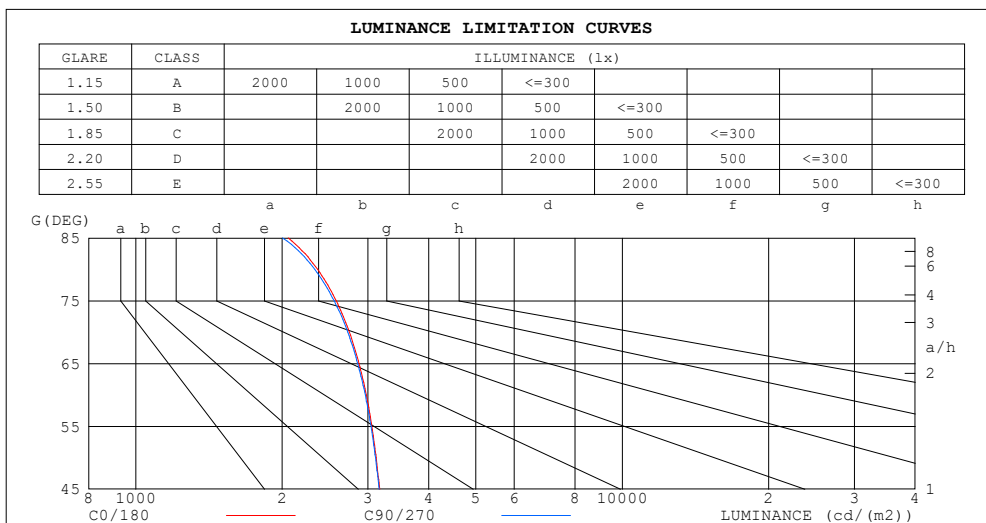
%lamp = 78.1%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 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:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2057	2003
80	2366	2334
75	2582	2558
70	2749	2729
65	2877	2859
60	2978	2963
55	3057	3045
50	3120	3110
45	3172	3164

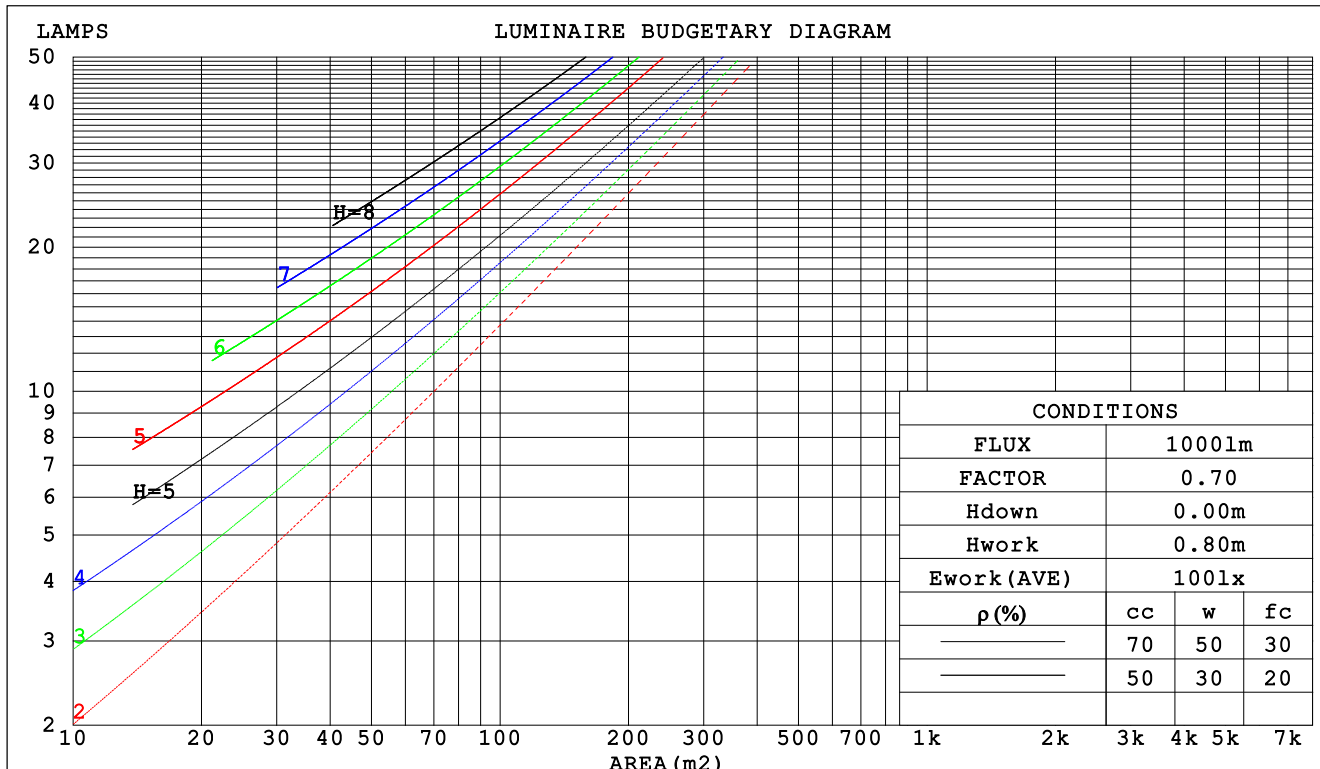
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 July 2023

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K 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	.62	.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	.38	.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



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 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:

WEC AND CCEC

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm											
NAME: MRS SPIN 900_NA_WHT_450mA_4000K 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	.314	.179	.057	.307	.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	.204	.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	.073	.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:10 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:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm										
NAME: MRS SPIN 900_NA_WHT_450mA_4000K 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	16.7	18.3	17.0	18.5	18.7	16.7	18.2	17.0	18.5	18.7
3H	18.3	19.7	18.6	19.9	20.2	18.3	19.7	18.6	19.9	20.1
4H	18.9	20.3	19.2	20.5	20.8	18.9	20.2	19.2	20.5	20.7
6H	19.4	20.7	19.7	20.9	21.2	19.3	20.6	19.7	20.9	21.2
8H	19.5	20.8	19.9	21.0	21.3	19.5	20.7	19.8	21.0	21.3
12H	19.6	20.8	20.0	21.1	21.4	19.6	20.8	19.9	21.1	21.4
4H 2H	17.3	18.7	17.7	18.9	19.2	17.3	18.7	17.6	18.9	19.2
3H	19.1	20.3	19.4	20.6	20.9	19.1	20.2	19.4	20.5	20.8
4H	19.8	20.9	20.2	21.2	21.6	19.8	20.9	20.2	21.2	21.6
6H	20.4	21.4	20.8	21.7	22.1	20.4	21.4	20.8	21.7	22.1
8H	20.6	21.5	21.1	21.9	22.3	20.6	21.5	21.0	21.9	22.3
12H	20.8	21.6	21.2	22.0	22.4	20.7	21.6	21.2	22.0	22.4
8H 4H	20.1	21.0	20.5	21.4	21.8	20.1	21.0	20.5	21.4	21.7
6H	20.9	21.6	21.3	22.0	22.4	20.8	21.6	21.3	22.0	22.4
8H	21.2	21.8	21.6	22.2	22.7	21.1	21.8	21.6	22.2	22.7
12H	21.4	22.0	21.9	22.4	22.9	21.3	21.9	21.8	22.4	22.8
12H 4H	20.1	21.0	20.6	21.3	21.7	20.1	20.9	20.5	21.3	21.7
6H	20.9	21.6	21.4	22.0	22.5	20.9	21.6	21.4	22.0	22.4
8H	21.3	21.8	21.7	22.3	22.8	21.2	21.8	21.7	22.2	22.7
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 6175 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.3)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 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:

UTILIZATION FACTORS TABLE

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		

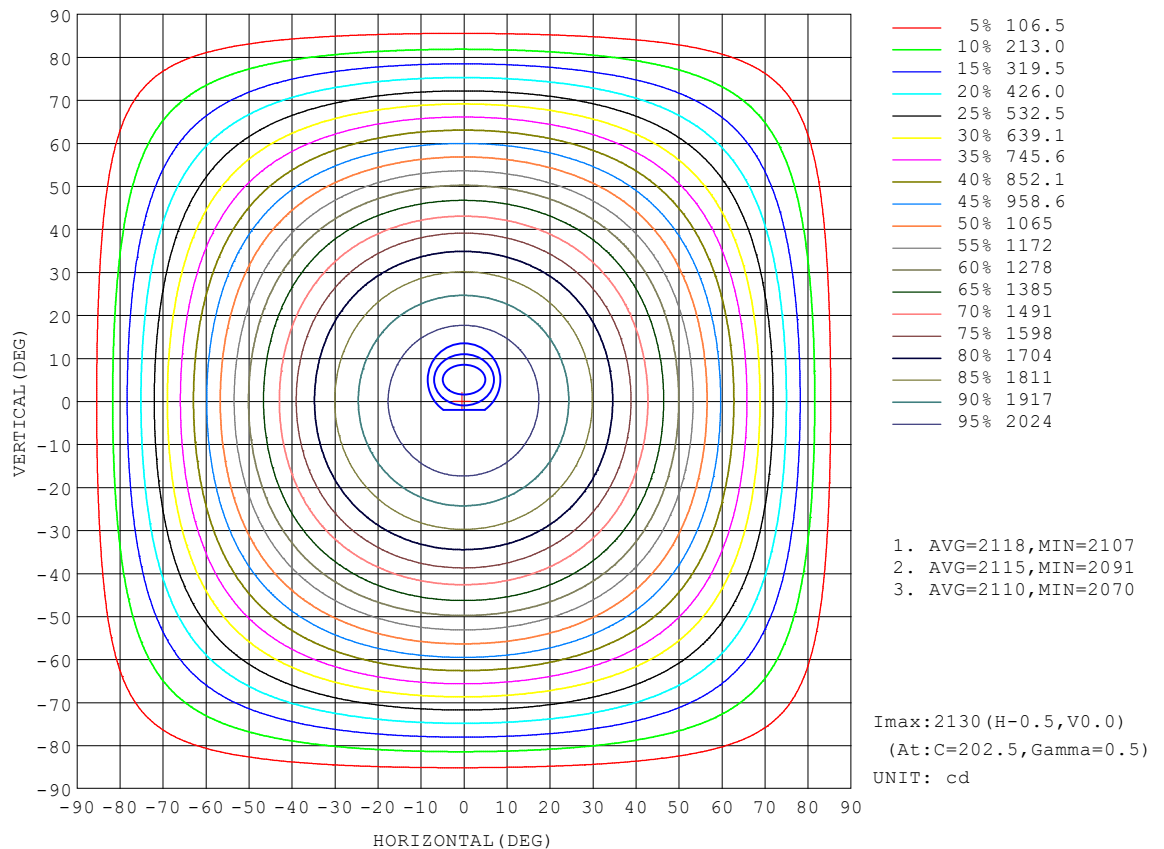
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	56	45	38	55	45	38	32
0.80	67	56	48	66	55	48	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	62
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	96	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		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: LOW
 Temperature: 25.3DEG
 Operators: JEFF
 Test Date: 10 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:

ISOCANDELA DIAGRAM

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		

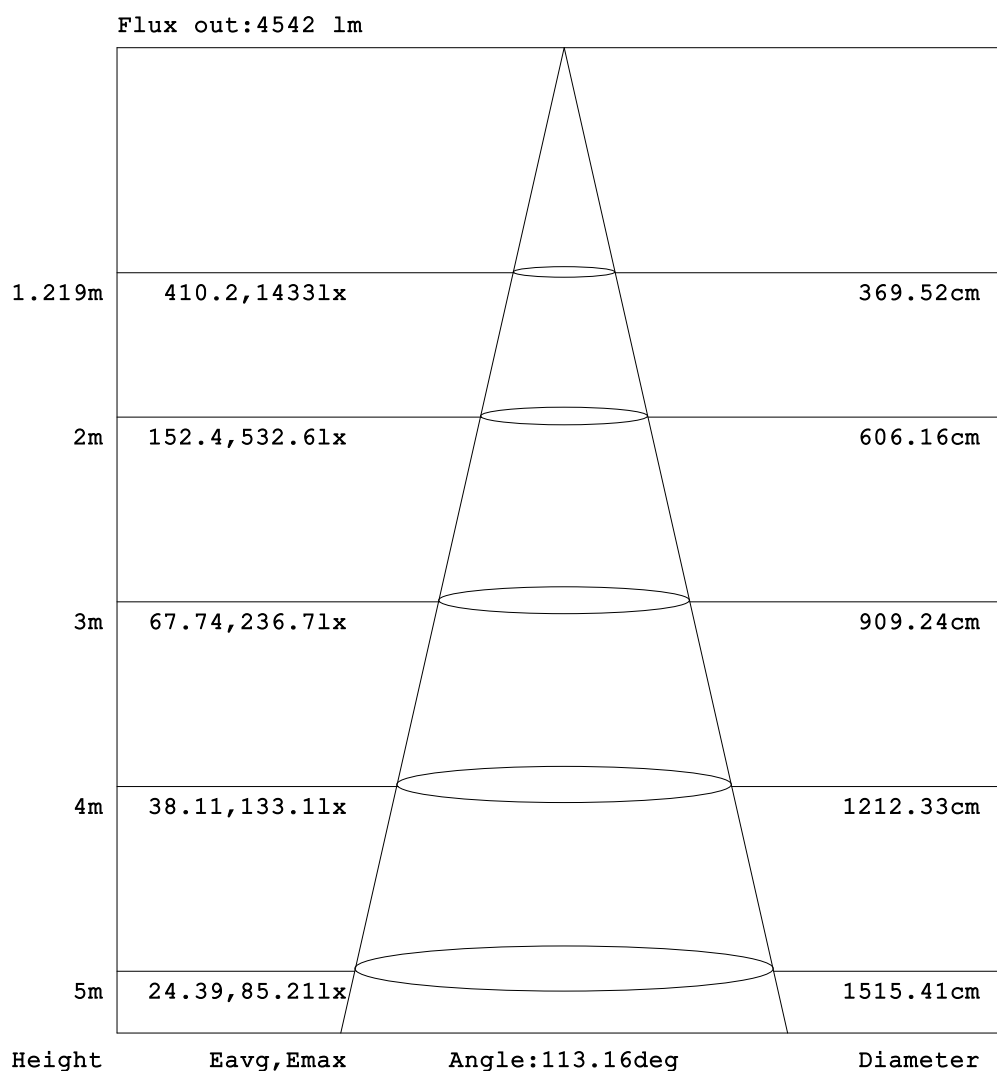


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 July 2023

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:

AAI Figure

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		



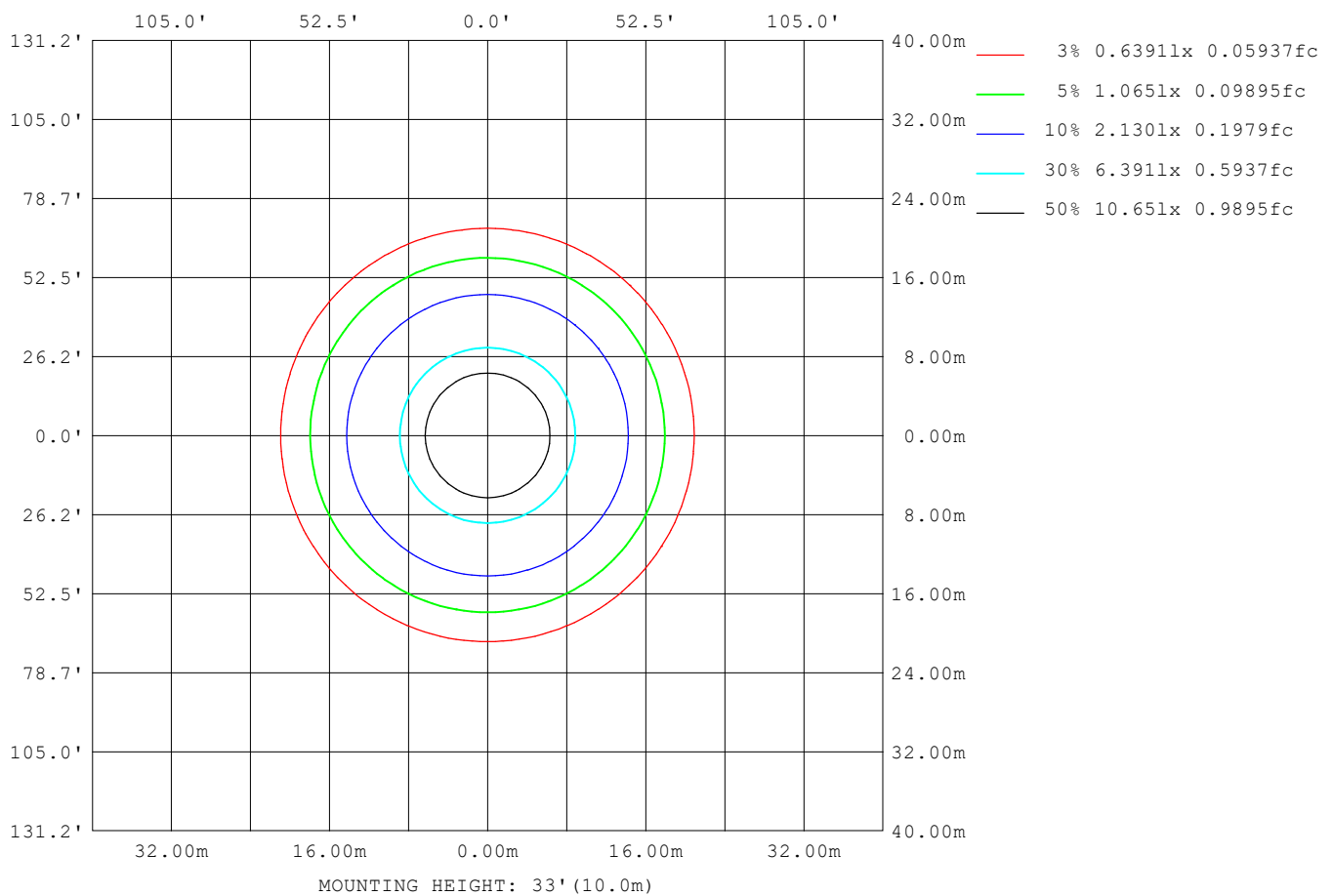
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature: 25.3DEG
Operators: JEFF
Test Date: 10 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:

ISOLUX DIAGRAM

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 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:

LED Avg.L Report

Test:U:239.8V I:0.2511A P:58.72W PF:0.9753 Lamp Flux:6174.69x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_4000K CRI80		
MFR.: DARKON		

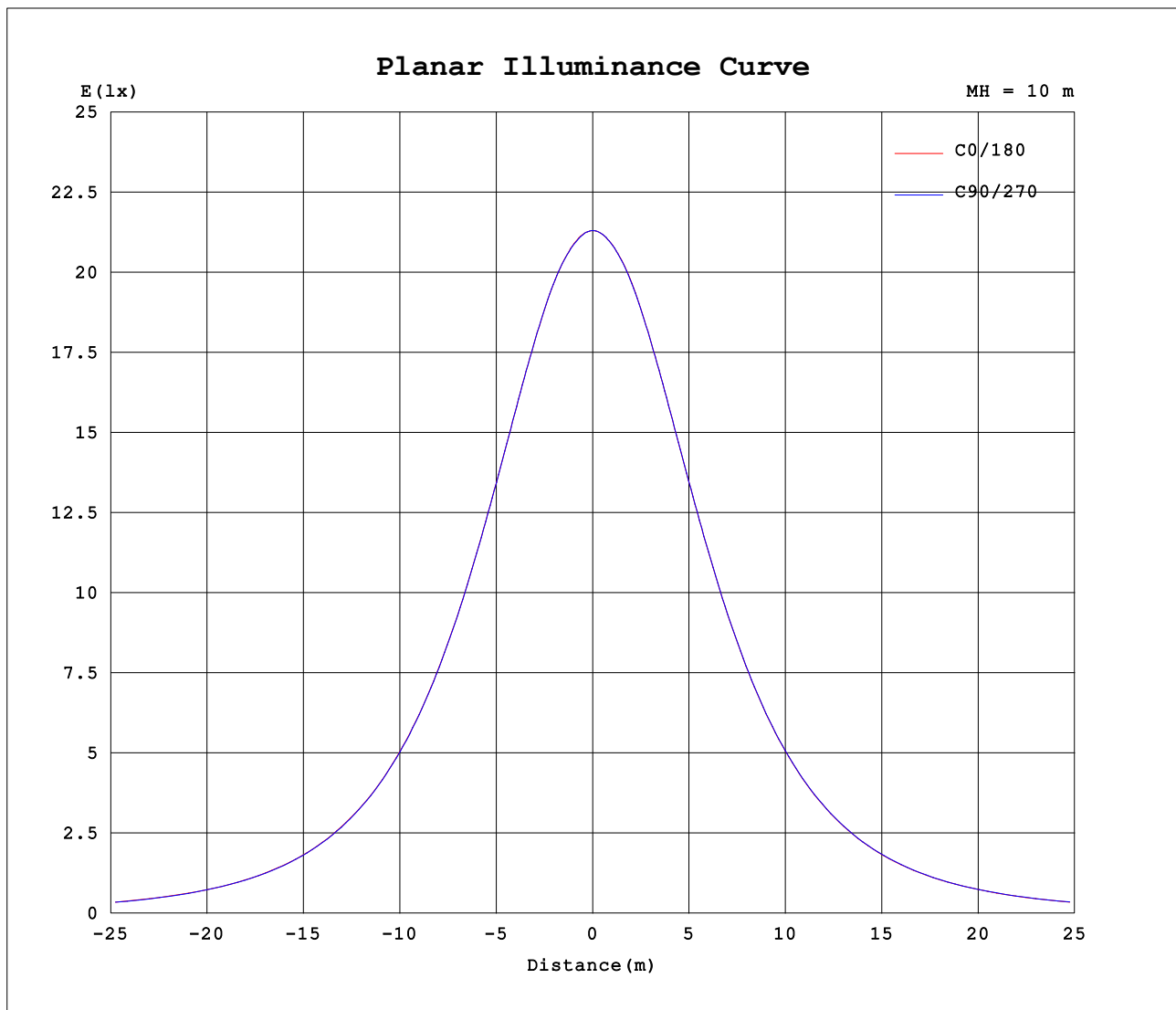
AvgL	cd/m2
L_0~180 (65) av	2888
L_0~180 (75) av	2598
L_0~180 (85) av	2094
L_90~270 (65) av	2885
L_90~270 (75) av	2597
L_90~270 (85) av	2089
L_45 (65) av	2887
L_45 (75) av	2598
L_45 (85) av	2092

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:10 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: 10 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:

