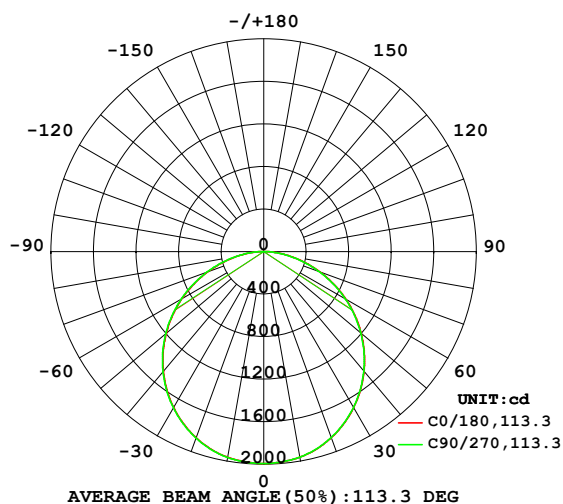


LUMINAIRE PHOTOMETRIC TEST REPORT

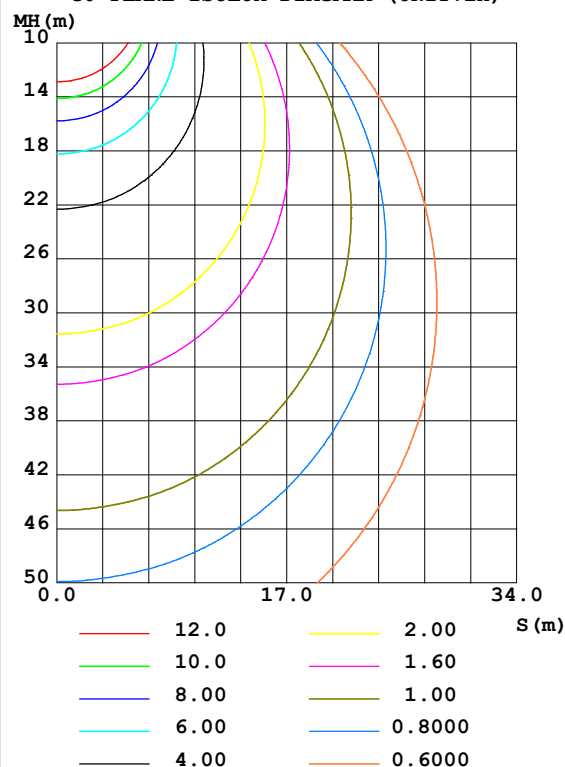
Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 98.27 lm/W			
CLE Quadra 401mm 2500lm 830 ADV		Imax(cd)	1993	S/MH(C0/180)	1.26
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	5785.7	η UP,DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	5785.68	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	1984	1983	1984	1985	1984	1984	1986	1985	0- 5	47.54	47.54	0.82,0.82
10	1964	1961	1962	1963	1963	1965	1965	1965	5- 10	141.2	188.8	3.26,3.26
15	1922	1918	1920	1920	1922	1925	1925	1924	10- 15	230.5	419.3	7.25,7.25
20	1861	1858	1860	1860	1862	1865	1865	1864	15- 20	311.8	731.1	12.6,12.6
25	1785	1781	1783	1783	1786	1789	1789	1788	20- 25	382.5	1114	19.2,19.2
30	1693	1689	1690	1691	1694	1698	1698	1697	25- 30	440.3	1554	26.9,26.9
35	1587	1583	1584	1584	1588	1592	1593	1591	30- 35	483.2	2037	35.2,35.2
40	1468	1464	1465	1465	1469	1474	1475	1473	35- 40	510.0	2547	44,44
45	1338	1334	1334	1334	1338	1344	1345	1343	40- 45	519.8	3067	53,53
50	1197	1193	1192	1193	1197	1203	1204	1202	45- 50	512.4	3579	61.9,61.9
55	1048	1043	1042	1042	1046	1053	1055	1053	50- 55	488.1	4067	70.3,70.3
60	890.9	885.2	884.2	884.8	889.2	896.2	897.8	895.9	55- 60	447.9	4515	78,78
65	728.7	722.7	721.7	722.4	726.6	733.7	735.5	733.8	60- 65	393.3	4909	84.8,84.8
70	565.0	558.6	557.5	558.4	562.5	569.6	571.3	569.8	65- 70	326.9	5236	90.5,90.5
75	403.1	396.9	395.5	396.7	400.7	407.5	409.2	407.7	70- 75	252.2	5488	94.9,94.9
80	249.5	243.5	242.5	243.7	247.4	253.4	254.9	253.6	75- 80	173.5	5661	97.8,97.8
85	110.3	105.2	104.7	105.9	109.0	114.2	115.4	114.1	80- 85	96.43	5758	99.5,99.5
90	1.743	1.640	1.643	1.639	1.926	3.422	3.447	2.429	85- 90	28.00	5786	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): 3066.9 lm

%lum = 53.0%

%lamp = 53.0%

Conical surface Flux(120deg): 4515.3 lm

%lum = 78.0%

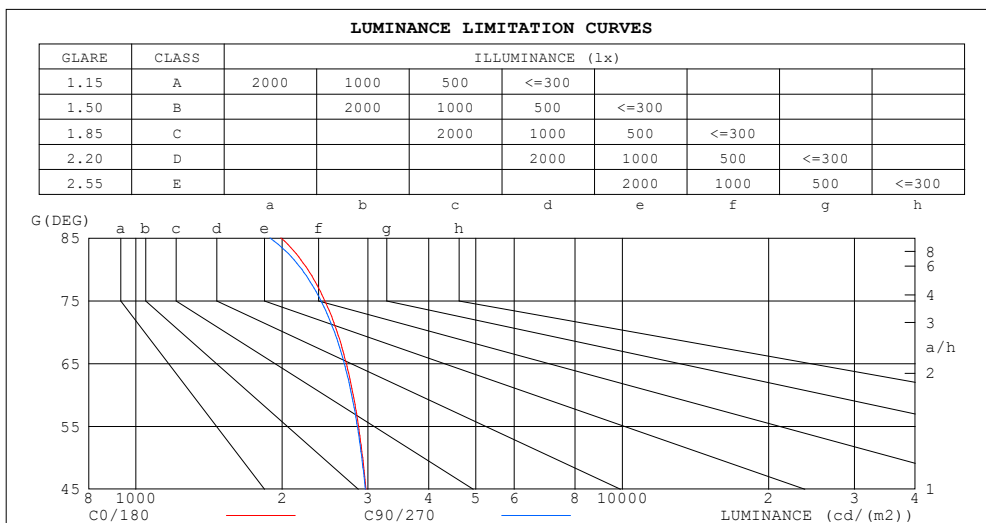
%lamp = 78.0%

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:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1988	1888
80	2257	2195
75	2447	2402
70	2595	2562
65	2709	2684
60	2799	2779
55	2870	2854
50	2927	2915
45	2973	2964

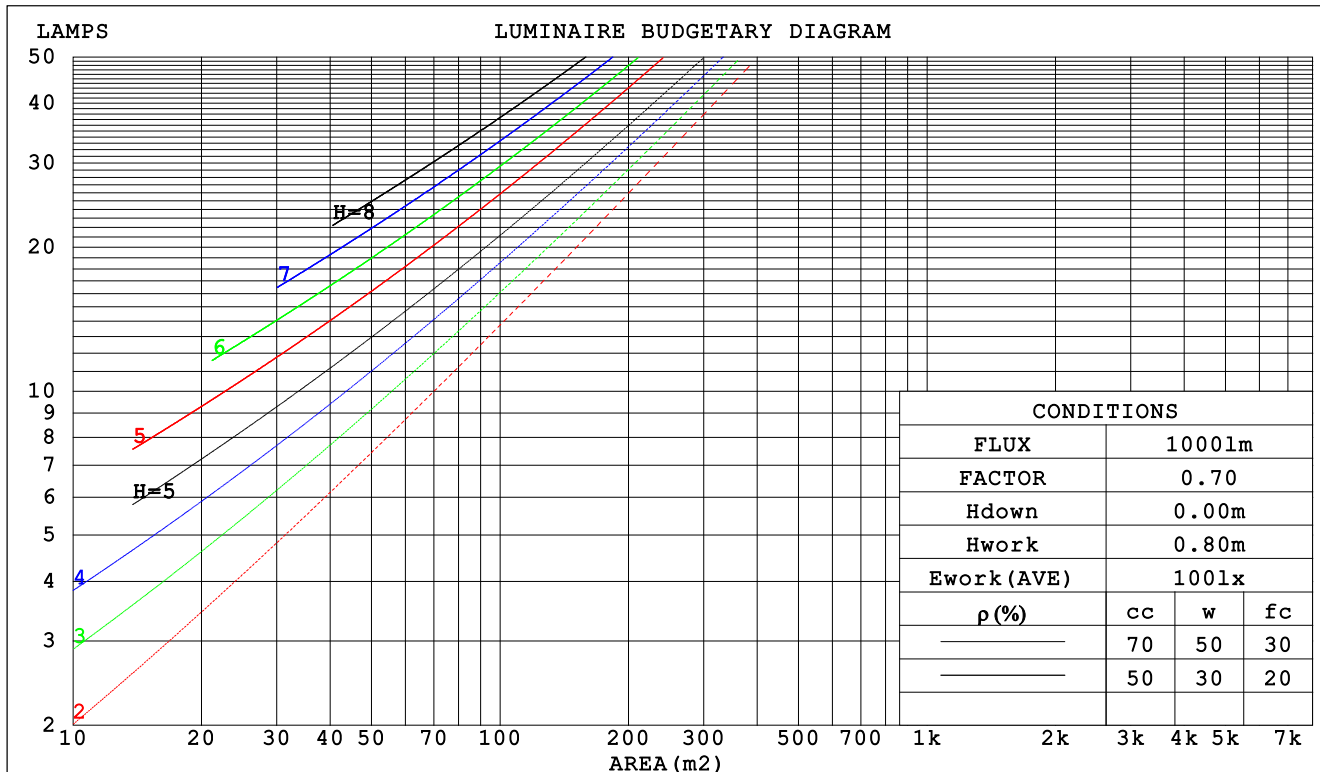
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_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	1.00
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	.63	.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



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:

WEC AND CCEC

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_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	.176	.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	.257	.139	.042	.247	.135	.042	.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	.191	.100	.030		
7.0	.200	.099	.028	.196	.098	.028	.190	.096	.028	.184	.094	.027	.178	.093	.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:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm										
NAME: MRS SPIN 900_NA_WHT_450mA_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	16.5	18.1	16.8	18.3	18.5	16.5	18.0	16.8	18.2	18.4
3H	18.1	19.5	18.4	19.7	20.0	18.0	19.5	18.3	19.7	19.9
4H	18.7	20.1	19.0	20.3	20.6	18.7	20.0	19.0	20.3	20.5
6H	19.2	20.5	19.5	20.7	21.0	19.1	20.4	19.5	20.7	21.0
8H	19.4	20.6	19.7	20.9	21.2	19.3	20.5	19.6	20.8	21.1
12H	19.5	20.6	19.8	20.9	21.2	19.4	20.6	19.7	20.9	21.2
4H 2H	17.1	18.5	17.5	18.7	19.0	17.1	18.5	17.4	18.7	19.0
3H	18.9	20.1	19.2	20.4	20.7	18.9	20.0	19.2	20.3	20.6
4H	19.7	20.7	20.0	21.1	21.4	19.6	20.7	20.0	21.0	21.3
6H	20.3	21.2	20.7	21.6	21.9	20.2	21.2	20.6	21.5	21.9
8H	20.5	21.4	20.9	21.7	22.1	20.4	21.3	20.8	21.7	22.1
12H	20.6	21.4	21.1	21.8	22.2	20.5	21.4	21.0	21.8	22.2
8H 4H	19.9	20.8	20.3	21.2	21.6	19.9	20.8	20.3	21.2	21.5
6H	20.7	21.4	21.1	21.8	22.3	20.6	21.4	21.1	21.8	22.2
8H	21.0	21.7	21.5	22.1	22.5	20.9	21.6	21.4	22.0	22.5
12H	21.2	21.8	21.7	22.2	22.7	21.1	21.7	21.6	22.2	22.6
12H 4H	19.9	20.8	20.4	21.2	21.6	19.9	20.7	20.3	21.1	21.5
6H	20.8	21.4	21.2	21.8	22.3	20.7	21.4	21.2	21.8	22.2
8H	21.1	21.7	21.6	22.1	22.6	21.0	21.6	21.5	22.1	22.5
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	+ 0.1 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117 Corrected 5786 lm Total Lamp Luminous Flux. (8log(F/F0) = 6.1)

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:

UTILIZATION FACTORS TABLE

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		

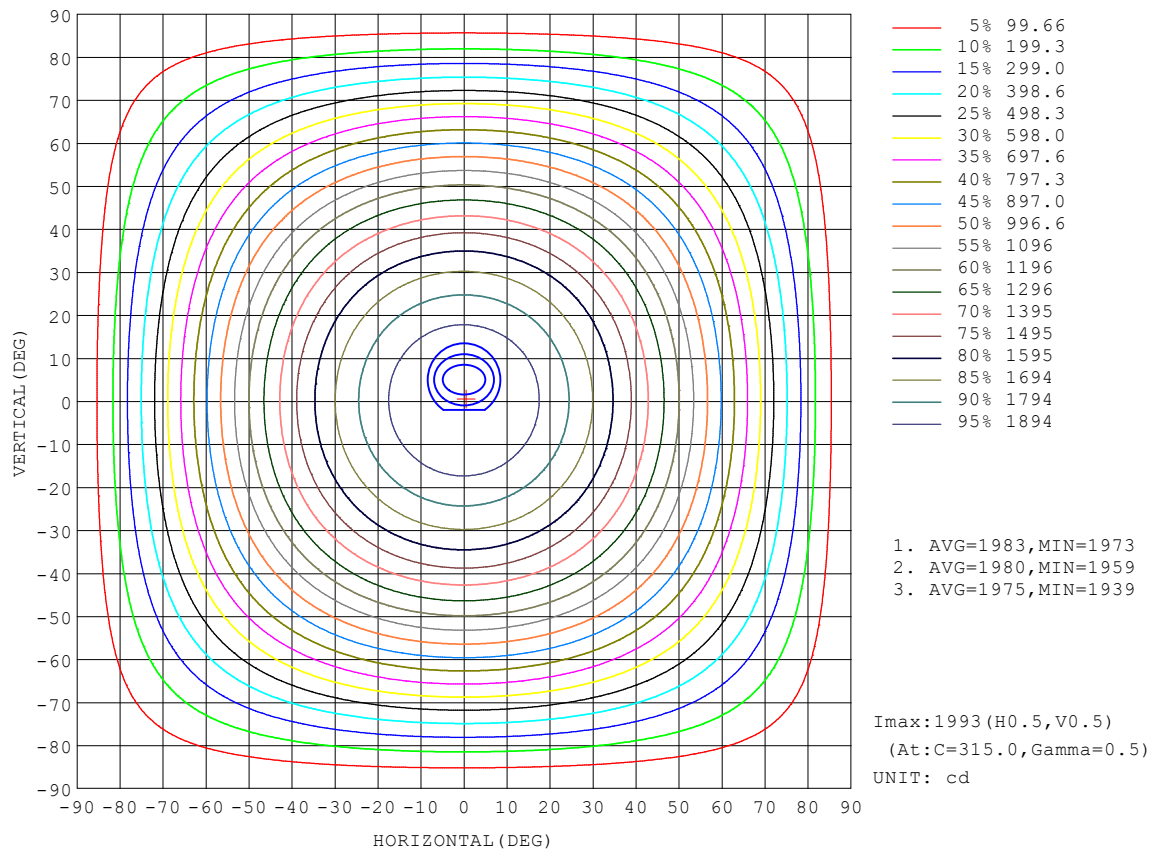
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	56	45	38	55	45	38	32
0.80	67	55	48	66	55	48	64	54	48	41
1.00	76	64	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	64	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	90	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		

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:

ISOCANDELA DIAGRAM

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		

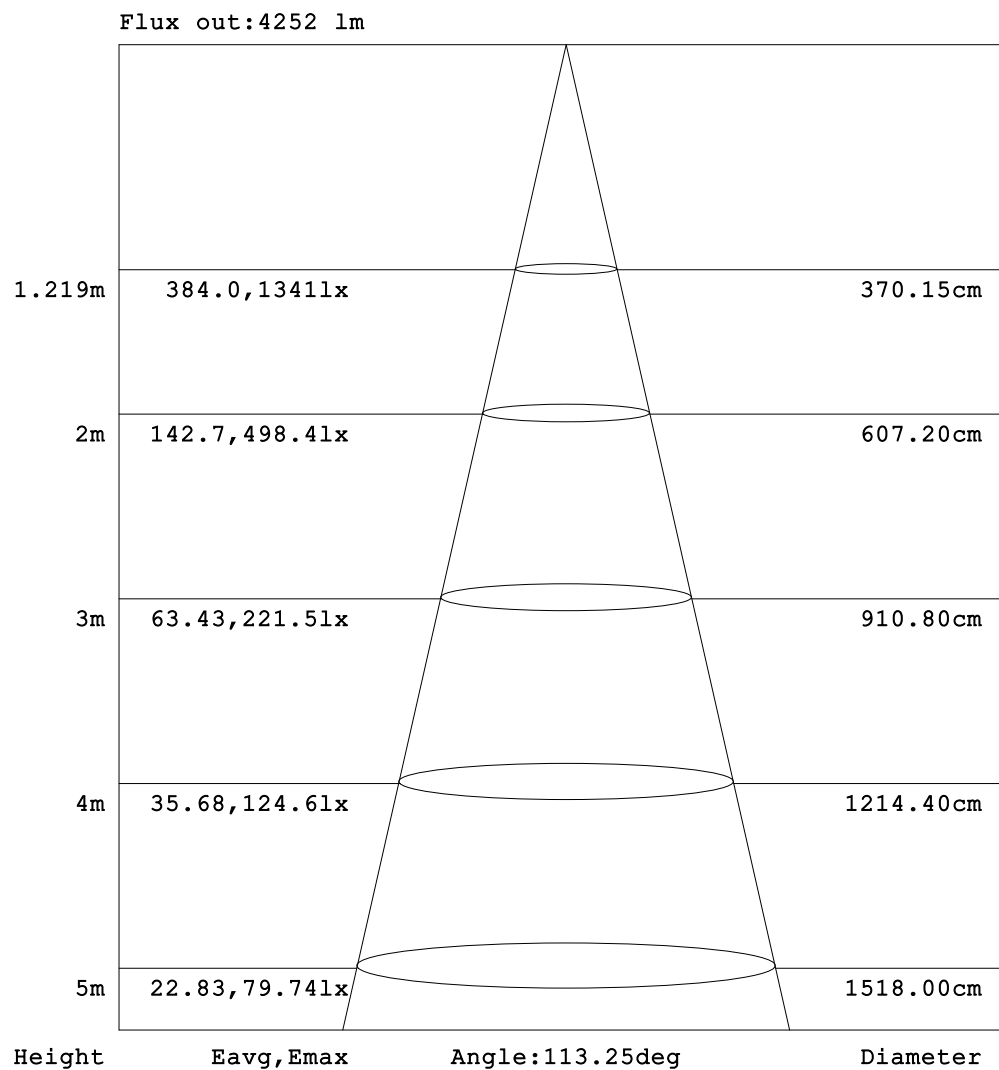


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: LOW
Temperature:25.3DEG
Operators:JEFF
Test Date:14 July 2023

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:

AAI Figure

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		



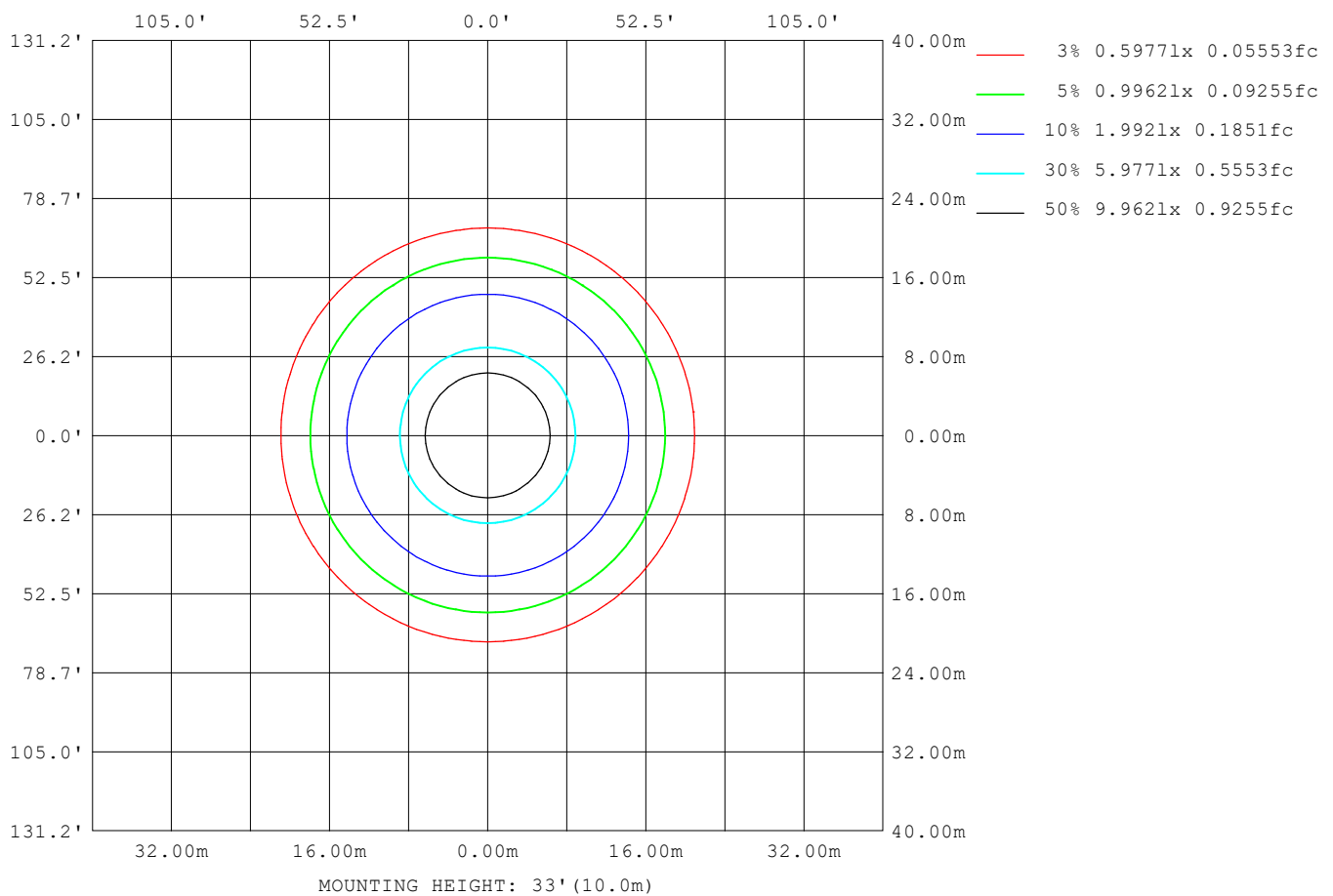
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

ISOLUX DIAGRAM

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		



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:

LED Avg.L Report

Test:U:239.8V I:0.2516A P:58.87W PF:0.9755 Lamp Flux:5785.68x1 lm		
NAME: MRS SPIN 900_NA_WHT_450mA_3000K CRI80		
MFR.: DARKON		

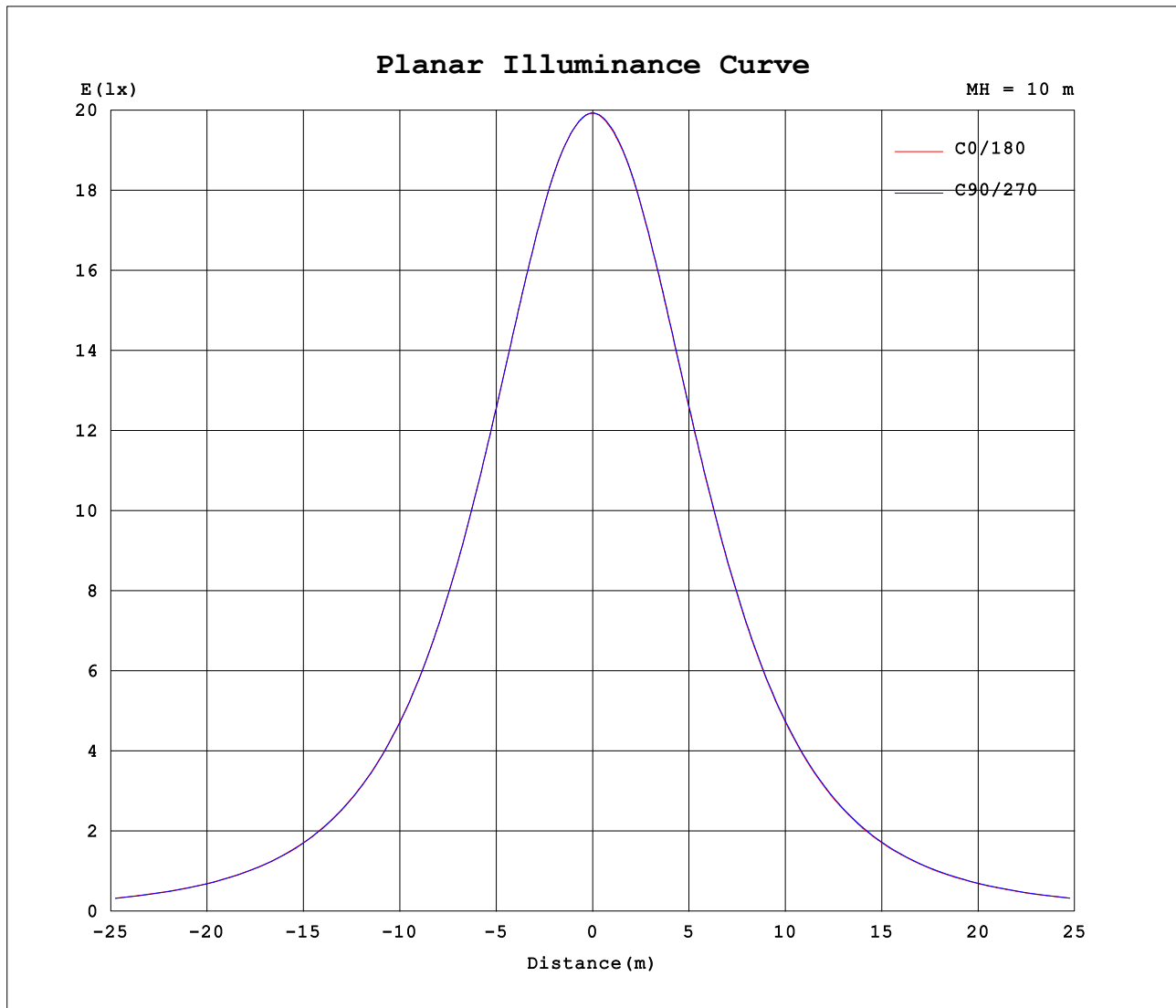
AvgL	cd/m2
L_0~180 (65) av	2706
L_0~180 (75) av	2440
L_0~180 (85) av	1977
L_90~270 (65) av	2709
L_90~270 (75) av	2443
L_90~270 (85) av	1984
L_45 (65) av	2708
L_45 (75) av	2442
L_45 (85) av	1981

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:

