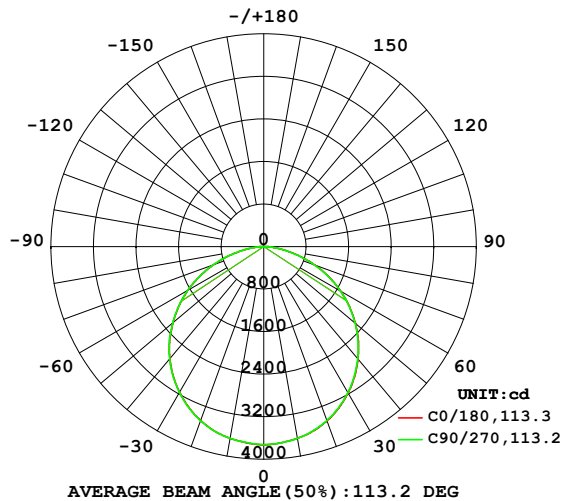


LUMINAIRE PHOTOMETRIC TEST REPORT

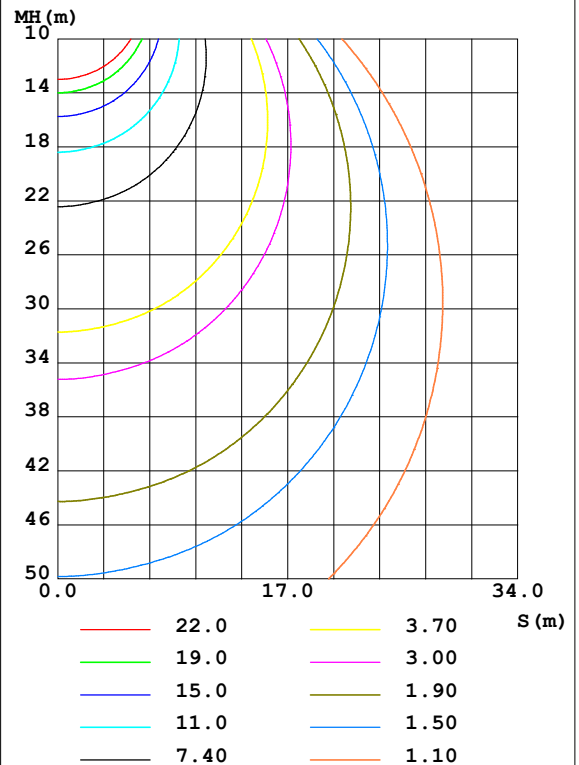
Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 96.19 lm/W			
CLE SHALIMONDE32 802mm 3800lm 940 EXC		Imax(cd)	3725	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)	10685	η UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	10685.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.9
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: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [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	3704	3703	3703	3704	3702	3700	3700	3701	0- 5	88.75	88.75	0.83,0.83
10	3662	3664	3663	3661	3661	3658	3660	3662	5- 10	263.4	352.1	3.3,3.3
15	3593	3594	3588	3587	3589	3585	3591	3593	10- 15	430.2	782.3	7.32,7.32
20	3486	3485	3478	3478	3479	3476	3483	3484	15- 20	582.8	1365	12.8,12.8
25	3346	3345	3339	3338	3337	3336	3341	3341	20- 25	715.4	2080	19.5,19.5
30	3177	3175	3169	3168	3167	3165	3170	3173	25- 30	823.9	2904	27.2,27.2
35	2981	2979	2972	2971	2971	2968	2975	2976	30- 35	904.8	3809	35.6,35.6
40	2760	2758	2752	2750	2749	2748	2753	2756	35- 40	955.5	4765	44.6,44.6
45	2518	2515	2508	2507	2505	2505	2511	2513	40- 45	974.5	5739	53.7,53.7
50	2254	2251	2245	2243	2230	2229	2234	2237	45- 50	959.5	6699	62.7,62.7
55	1970	1966	1962	1959	1947	1948	1953	1955	50- 55	912.6	7611	71.2,71.2
60	1670	1667	1661	1660	1647	1649	1653	1656	55- 60	835.6	8447	79.1,79.1
65	1355	1352	1347	1344	1333	1336	1340	1343	60- 65	729.6	9177	85.9,85.9
70	1025	1021	1017	1013	1010	1013	1017	1021	65- 70	598.0	9775	91.5,91.5
75	701.2	696.2	692.2	689.1	685.5	689.3	693.0	696.5	70- 75	446.2	10221	95.7,95.7
80	395.8	392.5	388.9	385.1	381.2	384.8	388.6	391.7	75- 80	287.5	10508	98.3,98.3
85	150.4	149.7	146.9	142.7	138.4	141.7	144.2	146.5	80- 85	140.9	10649	99.7,99.7
90	5.161	4.077	3.132	3.110	2.797	2.799	2.795	3.220	85- 90	36.06	10685	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): 5739.2 lm

%lum = 53.7%
%lamp = 53.7%

Conical surface Flux(120deg): 8446.9 lm

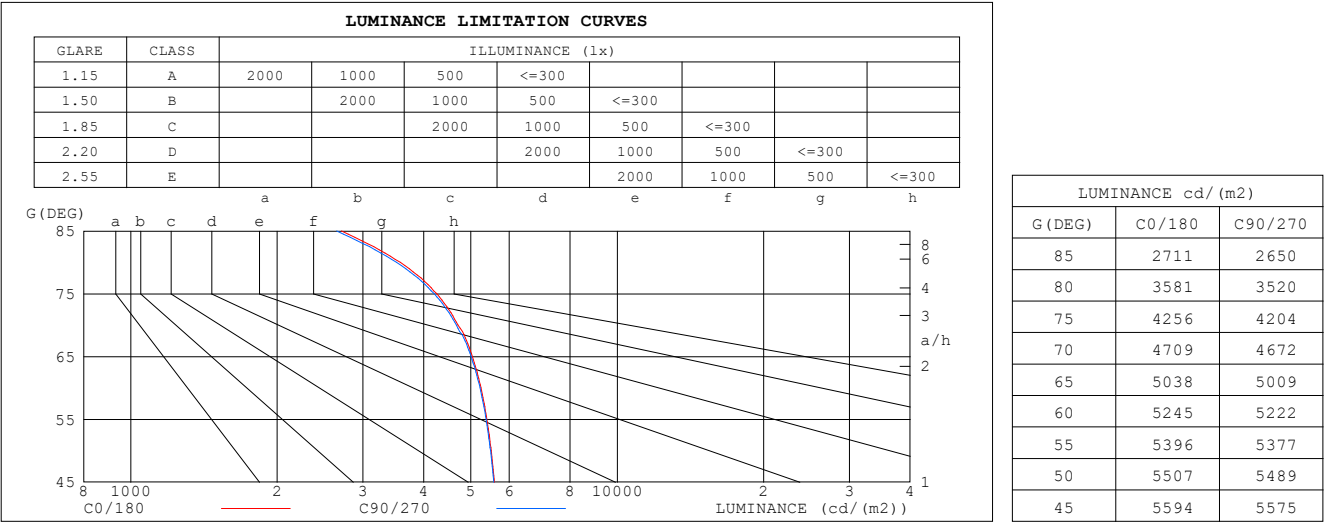
%lum = 79.1%
%lamp = 79.1%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



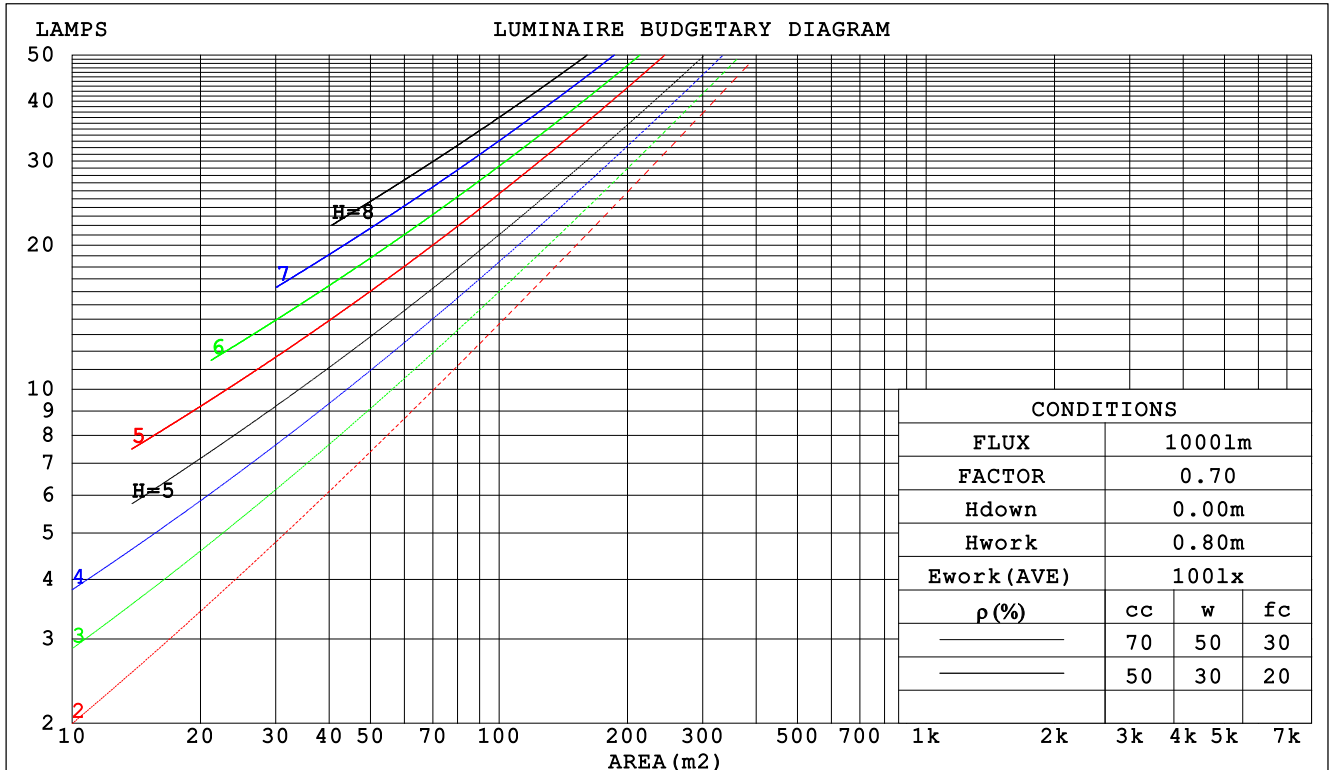
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

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	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
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	.00	.96	1.02	.98	.94	.97	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.74	.79	.75	.72	.70
3.0	.79	.71	.65	.78	.70	.64	.75	.68	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.70	.61	.55	.69	.61	.54	.66	.59	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.46	.58	.51	.46	.56	.50	.45	.43
6.0	.56	.47	.41	.56	.47	.41	.54	.46	.40	.52	.45	.40	.50	.44	.40	.38
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.41	.36	.46	.40	.35	.33
8.0	.47	.38	.32	.46	.38	.32	.45	.37	.32	.43	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.29	.42	.34	.29	.41	.34	.29	.40	.33	.29	.39	.33	.28	.27
10.0	.39	.32	.26	.39	.31	.26	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
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	.307	.175	.055	.300	.171	.054	.287	.165	.053	.275	.158	.051	.264	.153	.049		
2.0	.290	.159	.049	.284	.157	.048	.273	.152	.047	.262	.147	.046	.252	.142	.045		
3.0	.269	.143	.043	.264	.141	.043	.254	.137	.042	.244	.134	.041	.235	.130	.040		
4.0	.249	.129	.038	.244	.128	.038	.235	.125	.037	.226	.122	.037	.218	.119	.036		
5.0	.230	.117	.034	.226	.116	.034	.218	.113	.033	.210	.111	.033	.203	.109	.033		
6.0	.214	.107	.031	.210	.106	.030	.202	.104	.030	.196	.102	.030	.189	.100	.030		
7.0	.199	.098	.028	.195	.097	.028	.189	.096	.028	.183	.094	.027	.177	.092	.027		
8.0	.186	.091	.026	.183	.090	.025	.177	.088	.025	.171	.087	.025	.166	.085	.025		
9.0	.174	.084	.024	.171	.084	.023	.166	.082	.023	.161	.081	.023	.157	.080	.023		
10.0	.164	.078	.022	.161	.078	.022	.157	.077	.022	.152	.076	.021	.148	.074	.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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
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: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm										
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90					TYPE:LED			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:1		
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	18.8	20.3	19.0	20.5	20.7	18.7	20.3	19.0	20.5	20.7
3H	20.3	21.7	20.6	21.9	22.1	20.2	21.6	20.5	21.9	22.1
4H	20.8	22.2	21.1	22.4	22.7	20.8	22.1	21.1	22.4	22.6
6H	21.2	22.5	21.5	22.7	23.0	21.2	22.4	21.5	22.7	23.0
8H	21.3	22.5	21.6	22.8	23.1	21.3	22.5	21.6	22.8	23.0
12H	21.3	22.5	21.7	22.8	23.1	21.3	22.5	21.6	22.8	23.1
4H 2H	19.4	20.7	19.7	21.0	21.2	19.4	20.7	19.7	20.9	21.2
3H	21.0	22.2	21.4	22.5	22.8	21.0	22.2	21.4	22.5	22.8
4H	21.7	22.8	22.1	23.1	23.5	21.7	22.8	22.1	23.1	23.4
6H	22.2	23.2	22.6	23.5	23.9	22.2	23.1	22.6	23.5	23.8
8H	22.4	23.2	22.8	23.6	24.0	22.3	23.2	22.7	23.6	24.0
12H	22.4	23.3	22.9	23.6	24.0	22.4	23.2	22.8	23.6	24.0
8H 4H	22.0	22.9	22.4	23.2	23.6	22.0	22.8	22.4	23.2	23.6
6H	22.6	23.3	23.0	23.7	24.2	22.6	23.3	23.0	23.7	24.1
8H	22.8	23.5	23.3	23.9	24.3	22.8	23.4	23.2	23.8	24.3
12H	22.9	23.5	23.4	23.9	24.4	22.9	23.5	23.4	23.9	24.4
12H 4H	22.0	22.8	22.4	23.2	23.6	22.0	22.8	22.4	23.2	23.6
6H	22.6	23.3	23.1	23.7	24.2	22.6	23.2	23.1	23.7	24.1
8H	22.9	23.4	23.4	23.9	24.4	22.8	23.4	23.3	23.8	24.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 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 10685 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.2)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

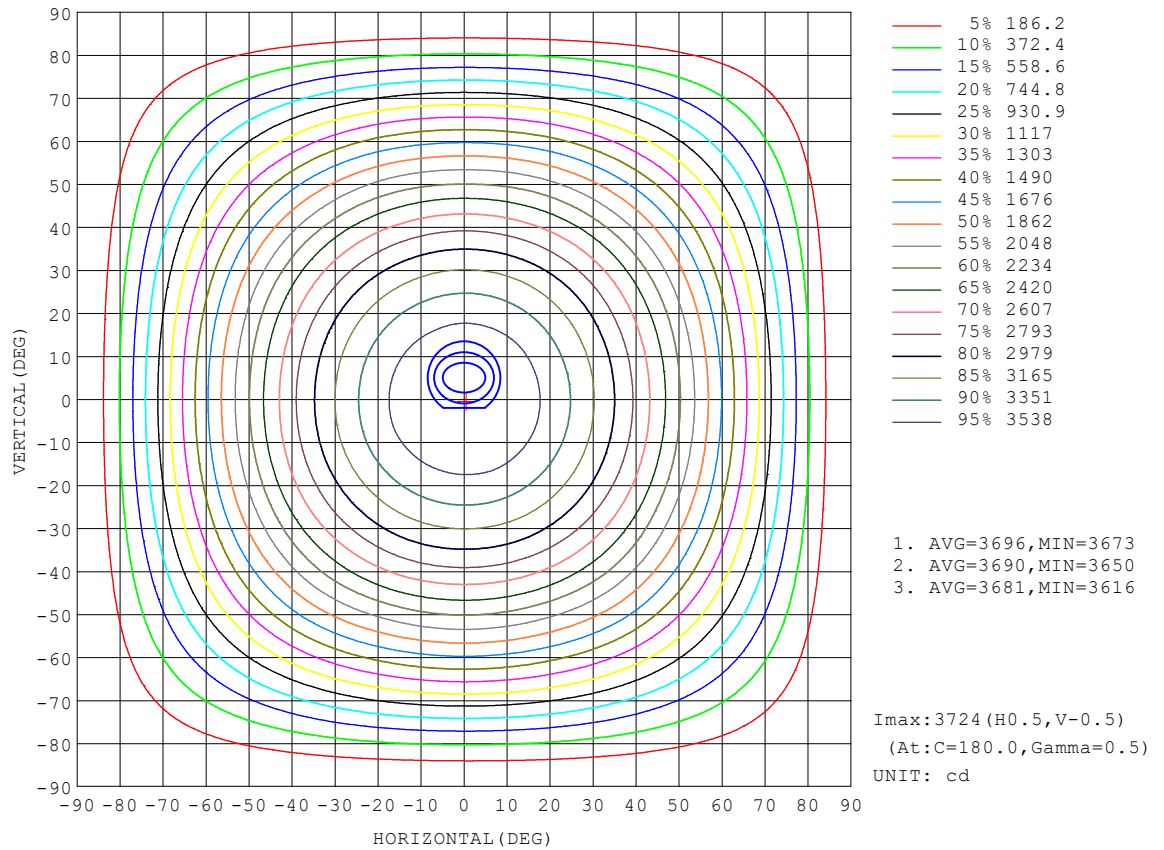
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	46	39	56	45	39	32
0.80	68	56	49	67	55	48	65	55	48	41
1.00	76	65	58	75	64	57	73	66	57	50
1.25	83	73	66	82	72	65	79	70	64	57
1.50	88	78	71	86	77	71	83	76	70	62
2.00	95	87	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	98	102	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: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

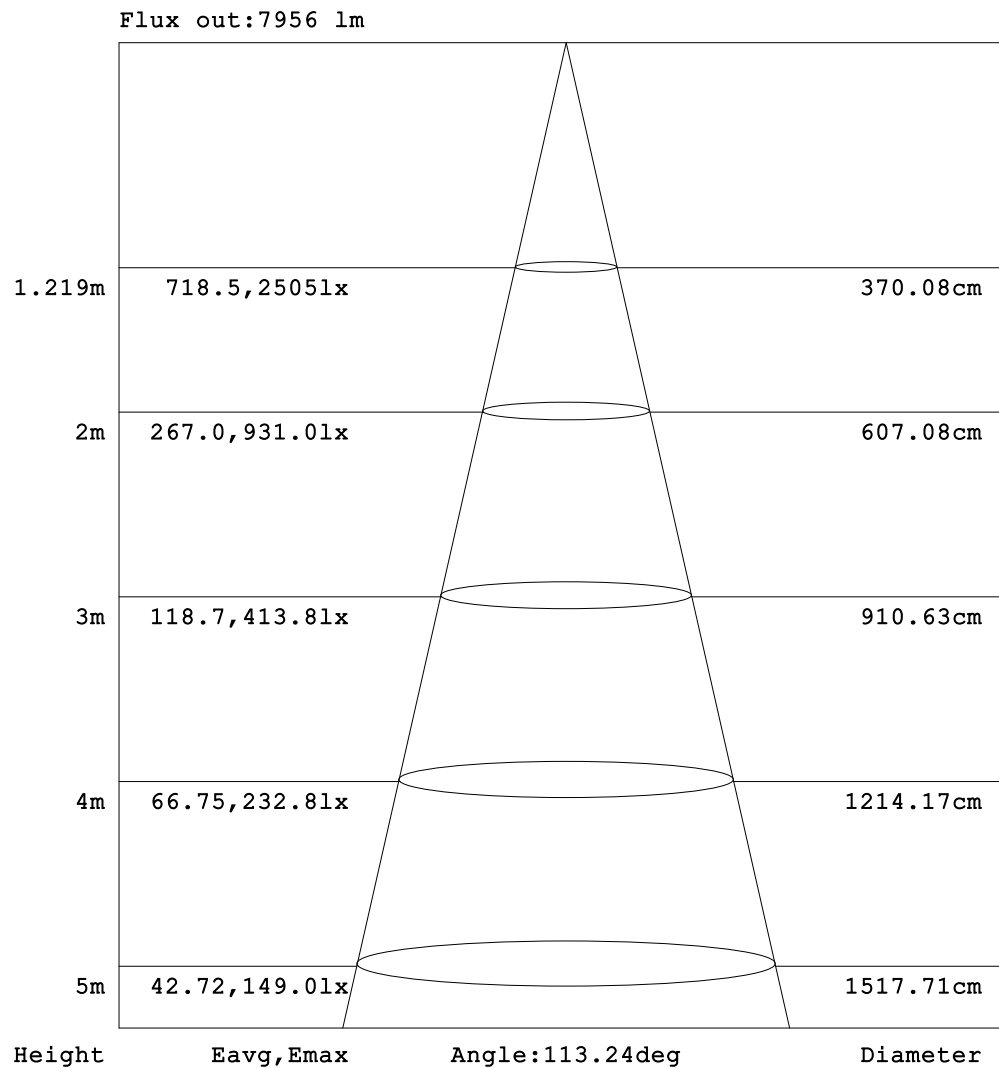


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

AAI Figure

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



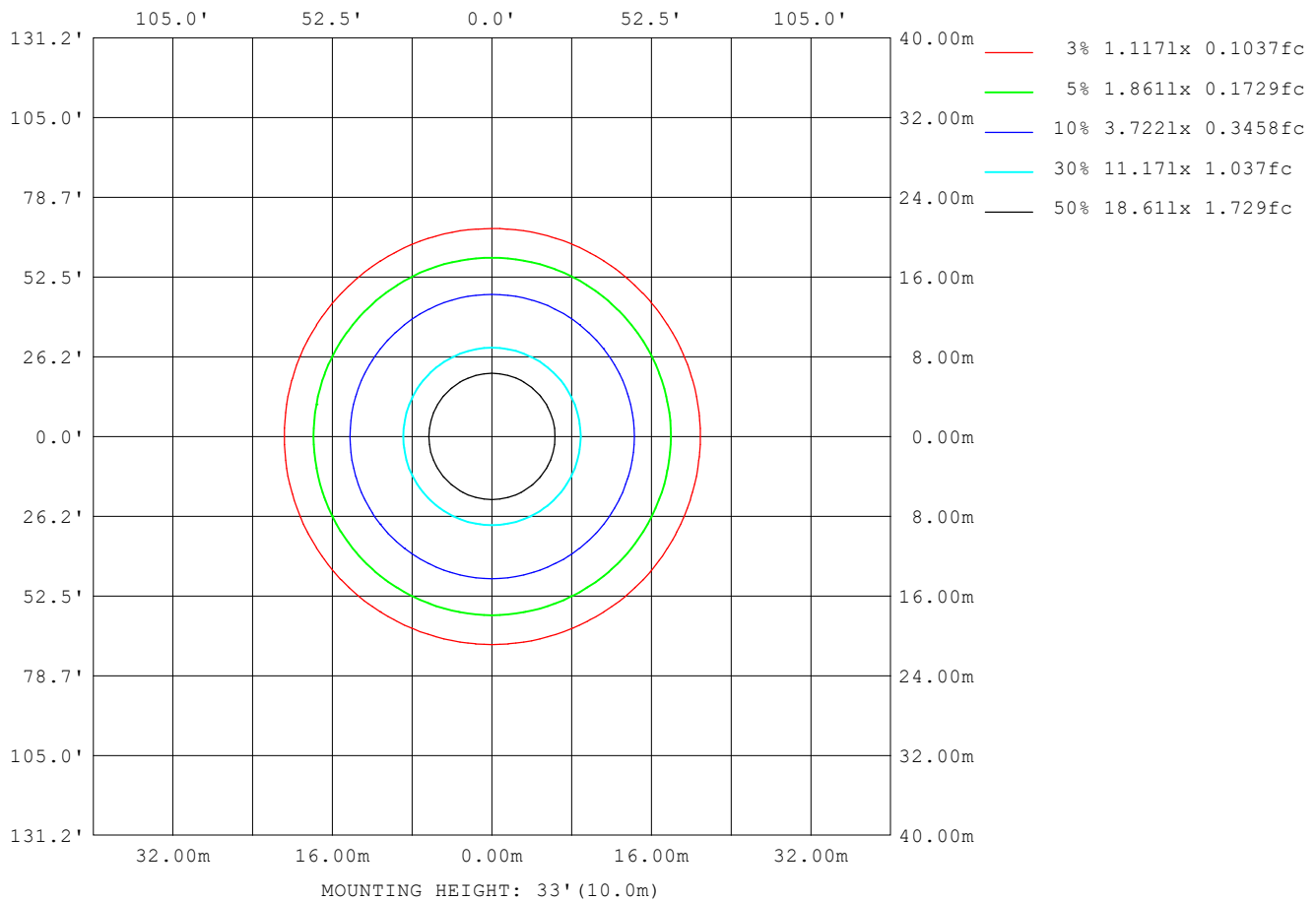
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:JEFF
 Test Date:23 May 2025

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:7.888m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:239.8V I:0.4873A P:111.1W PF:0.9507 Lamp Flux:10685.2x1 lm		
NAME: MRS SPIN 900_NA_WHT_775mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

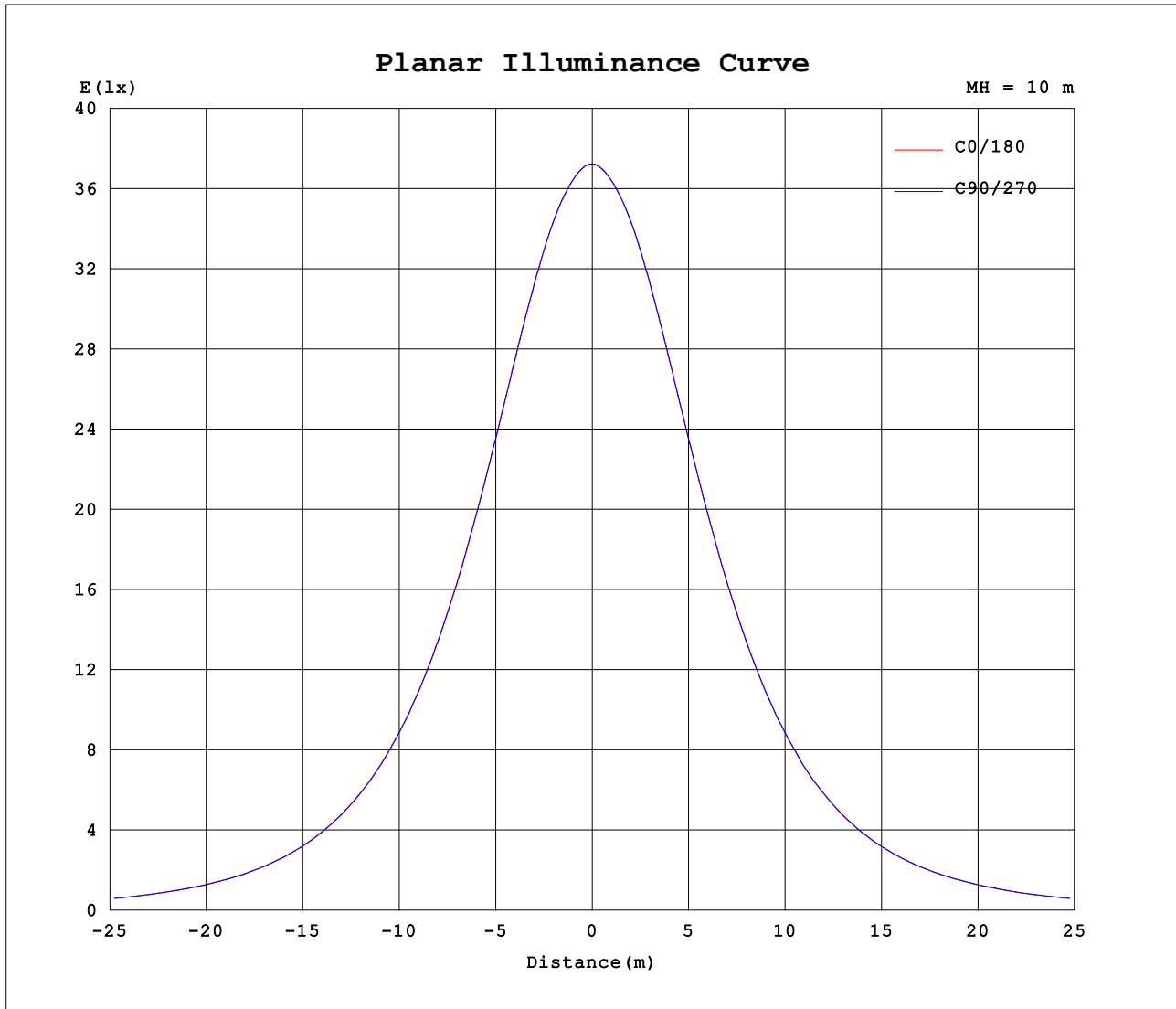
AvgL	cd/m2
L_0~180 (65) av	4999
L_0~180 (75) av	4210
L_0~180 (85) av	2604
L_90~270 (65) av	4996
L_90~270 (75) av	4205
L_90~270 (85) av	2625
L_45 (65) av	4997
L_45 (75) av	4207
L_45 (85) av	2617

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:JEFF
Test Date:23 May 2025

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators: JEFF
Test Date: 23 May 2025

γ Range: 0 - 90DEG
 γ Interval: 0.5DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity: 65.0%
Test Distance: 7.888m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295
Humidity:65.0%
Test Distance:7.888m [K=1.0000]
Remarks:

```