

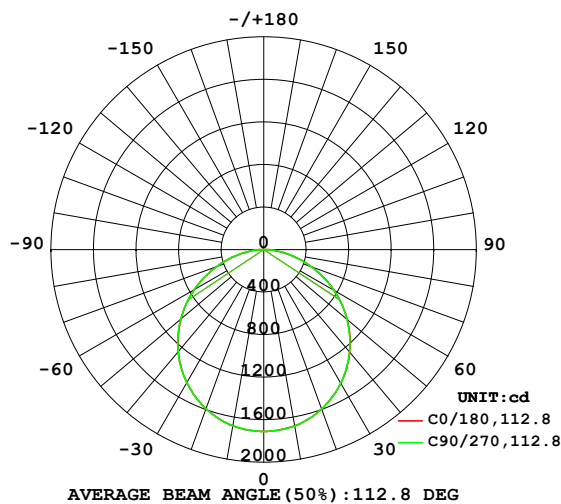
**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		

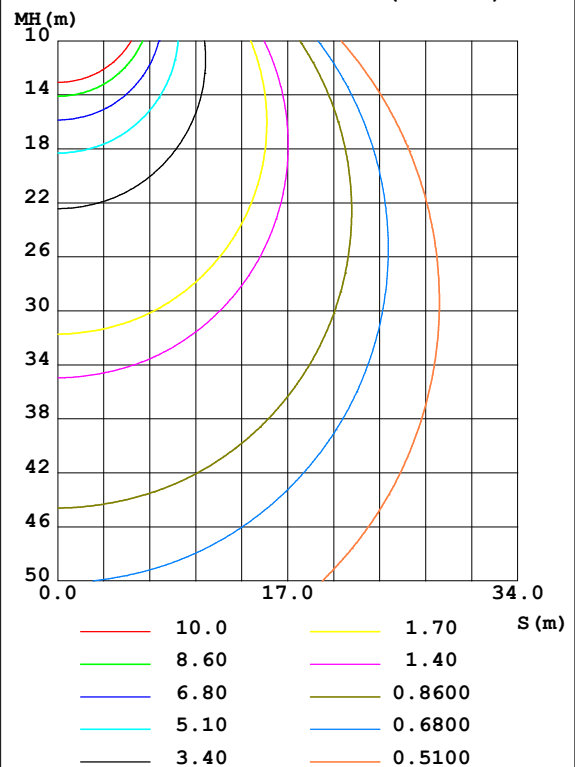
CLE Quadra

DATA OF LAMP		PHOTOMETRIC DATA Eff: 104.00 lm/W			
MODEL: 261mm 1200lm 840 ADV		Imax(cd)	1710	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)	4930.7	η UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	4930.74	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: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	1682	1683	1683	1683	1682	1680	1681	1681	0- 10	161.8	161.8	3.28,3.28
20	1595	1595	1594	1593	1591	1591	1592	1594	10- 20	464.3	626.2	12.7,12.7
30	1451	1451	1449	1447	1446	1446	1447	1449	20- 30	703.7	1330	27,27
40	1258	1258	1256	1253	1252	1252	1253	1256	30- 40	848.8	2179	44.2,44.2
50	1025	1025	1022	1019	1018	1018	1020	1023	40- 50	881.0	3060	62.1,62.1
60	762.1	761.5	758.9	755.8	754.0	753.7	755.7	759.8	50- 60	797.5	3857	78.2,78.2
70	482.1	481.5	478.7	475.2	473.6	473.5	475.8	479.8	60- 70	611.7	4469	90.6,90.6
80	211.7	211.3	208.6	205.4	203.8	204.0	206.1	210.3	70- 80	358.7	4828	97.9,97.9
90	3.406	3.161	2.032	1.442	1.452	1.418	1.441	2.087	80- 90	103.2	4931	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:cd									UNIT:lm		

Conical surface Flux(90deg): 2622.5 lm

%lum = 53.2%

%lamp = 53.2%

Conical surface Flux(120deg): 3857.2 lm

%lum = 78.2%

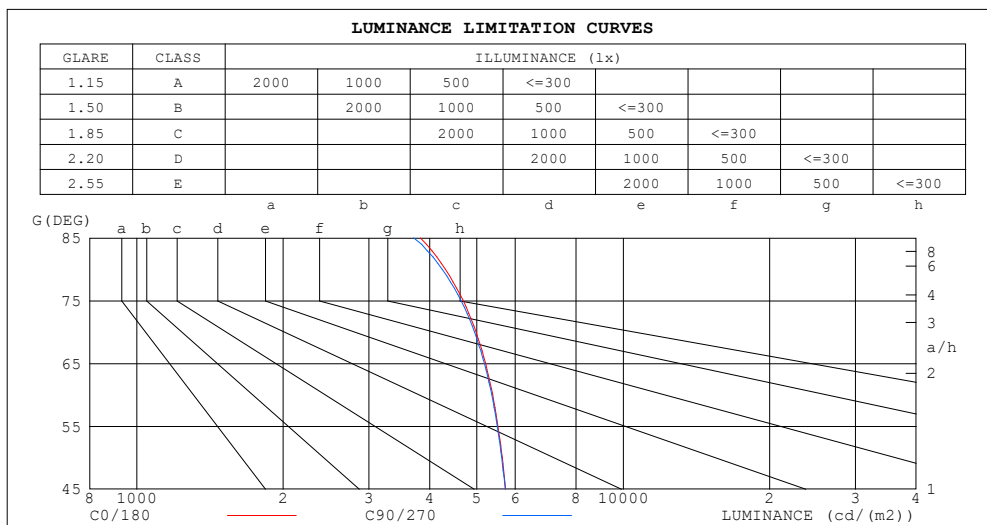
%lamp = 78.2%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:JEFF  
 Test Date:03 July 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3829	3711
80	4312	4247
75	4690	4643
70	4985	4949
65	5213	5185
60	5391	5367
55	5530	5510
50	5640	5625
45	5731	5719

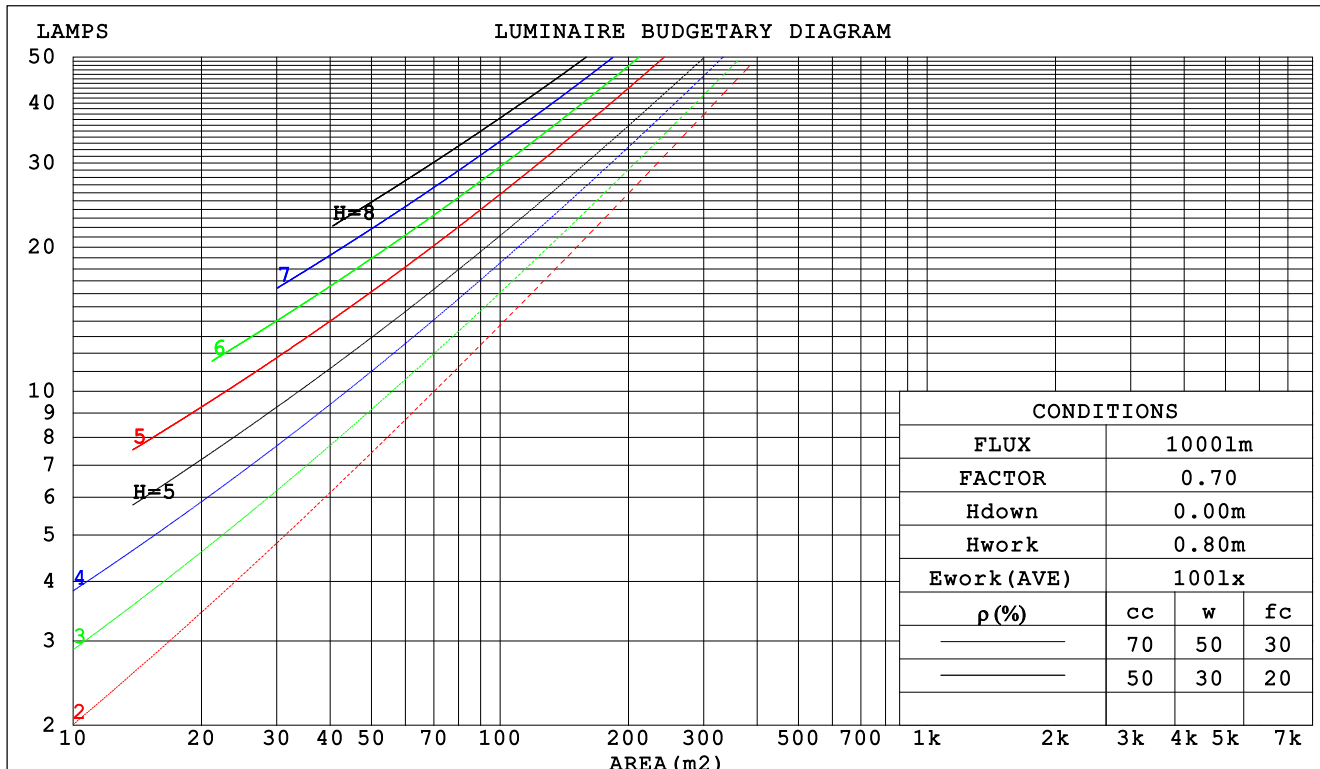
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 03 July 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	.91	.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	.51	.45	.55	.50	.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	.49	.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	.29	.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: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm											
NAME: MRS SPIN 600_NA_WHT_350mA_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	.178	.056	.307	.175	.056	.293	.168	.054	.281	.162	.052	.270	.156	.050	
2.0	.294	.161	.049	.288	.159	.049	.276	.154	.048	.265	.149	.047	.255	.144	.046	
3.0	.272	.145	.043	.266	.143	.043	.256	.139	.042	.246	.135	.041	.237	.131	.041	
4.0	.251	.130	.038	.246	.129	.038	.236	.125	.037	.228	.122	.037	.220	.120	.036	
5.0	.231	.118	.034	.227	.117	.034	.219	.114	.034	.211	.112	.033	.204	.109	.033	
6.0	.214	.108	.031	.211	.106	.031	.203	.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	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.084	.024	.172	.084	.023	.167	.082	.023	.162	.081	.023	.157	.080	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.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	.154	.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: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm										
NAME: MRS SPIN 600_NA_WHT_350mA_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	18.8	20.4	19.1	20.6	20.8	18.8	20.4	19.1	20.6	20.8
3H	20.4	21.8	20.7	22.0	22.3	20.4	21.8	20.7	22.0	22.3
4H	21.0	22.4	21.3	22.6	22.9	21.0	22.3	21.3	22.6	22.9
6H	21.5	22.8	21.8	23.0	23.3	21.5	22.7	21.8	23.0	23.3
8H	21.7	22.9	22.0	23.2	23.5	21.6	22.8	22.0	23.1	23.4
12H	21.8	22.9	22.1	23.2	23.5	21.7	22.9	22.1	23.2	23.5
4H 2H	19.5	20.8	19.8	21.1	21.3	19.4	20.8	19.8	21.0	21.3
3H	21.2	22.4	21.6	22.7	23.0	21.2	22.4	21.5	22.7	23.0
4H	22.0	23.1	22.3	23.4	23.7	21.9	23.0	22.3	23.3	23.7
6H	22.6	23.5	23.0	23.9	24.3	22.5	23.5	22.9	23.9	24.2
8H	22.8	23.7	23.2	24.1	24.4	22.7	23.6	23.2	24.0	24.4
12H	22.9	23.8	23.4	24.1	24.6	22.9	23.7	23.3	24.1	24.5
8H 4H	22.3	23.1	22.7	23.5	23.9	22.2	23.1	22.6	23.5	23.9
6H	23.0	23.8	23.5	24.2	24.6	23.0	23.7	23.4	24.1	24.6
8H	23.3	24.0	23.8	24.4	24.9	23.3	23.9	23.7	24.4	24.8
12H	23.6	24.1	24.0	24.6	25.0	23.5	24.1	24.0	24.5	25.0
12H 4H	22.3	23.1	22.7	23.5	23.9	22.2	23.1	22.7	23.5	23.9
6H	23.1	23.7	23.5	24.2	24.6	23.1	23.7	23.5	24.1	24.6
8H	23.4	24.0	23.9	24.4	24.9	23.4	24.0	23.9	24.4	24.9
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					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 4931 lm Total Lamp Luminous Flux. (8log(F/F0) = 5.5)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		

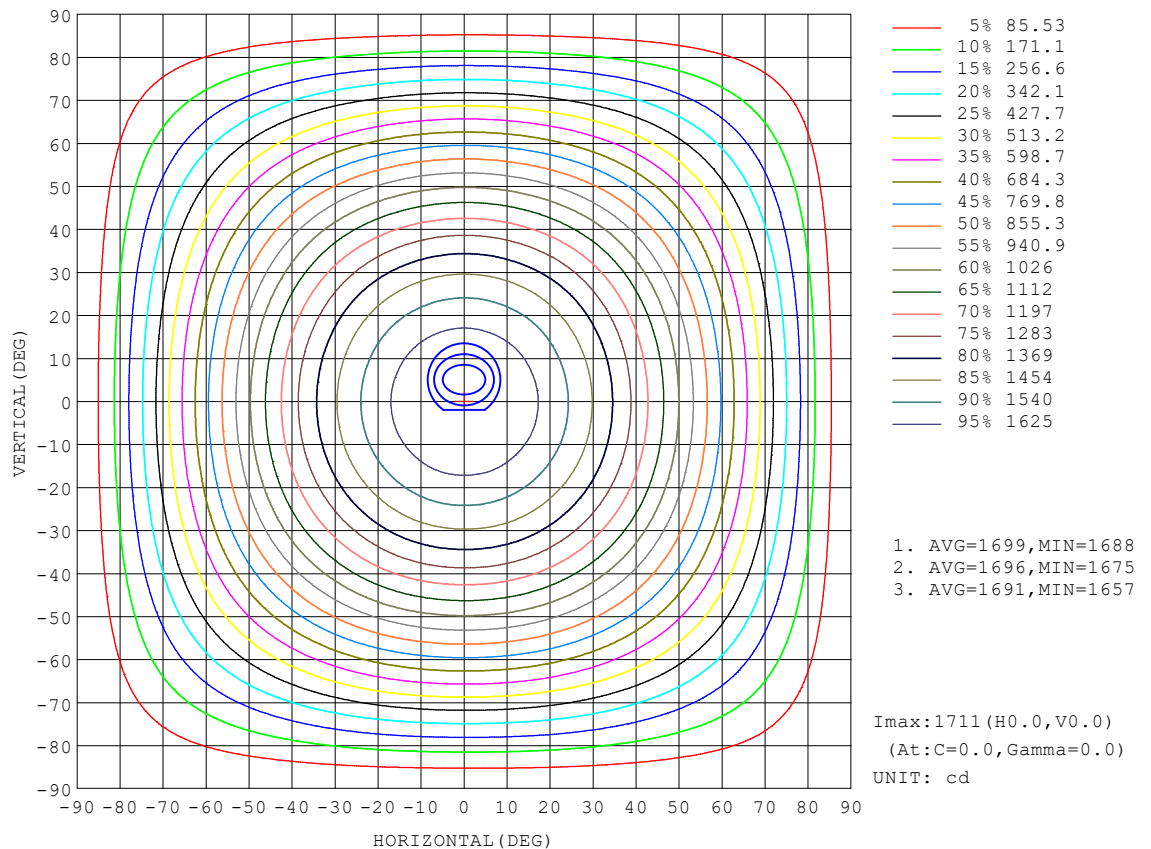
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	75	64	57	72	65	56	49
1.25	83	72	65	81	72	65	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	62
2.00	95	86	80	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	74
3.00	102	95	90	100	94	88	96	91	86	78
4.00	106	100	96	104	99	94	99	95	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: HIGH  
 Temperature: 25.3DEG  
 Operators: JEFF  
 Test Date: 03 July 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		



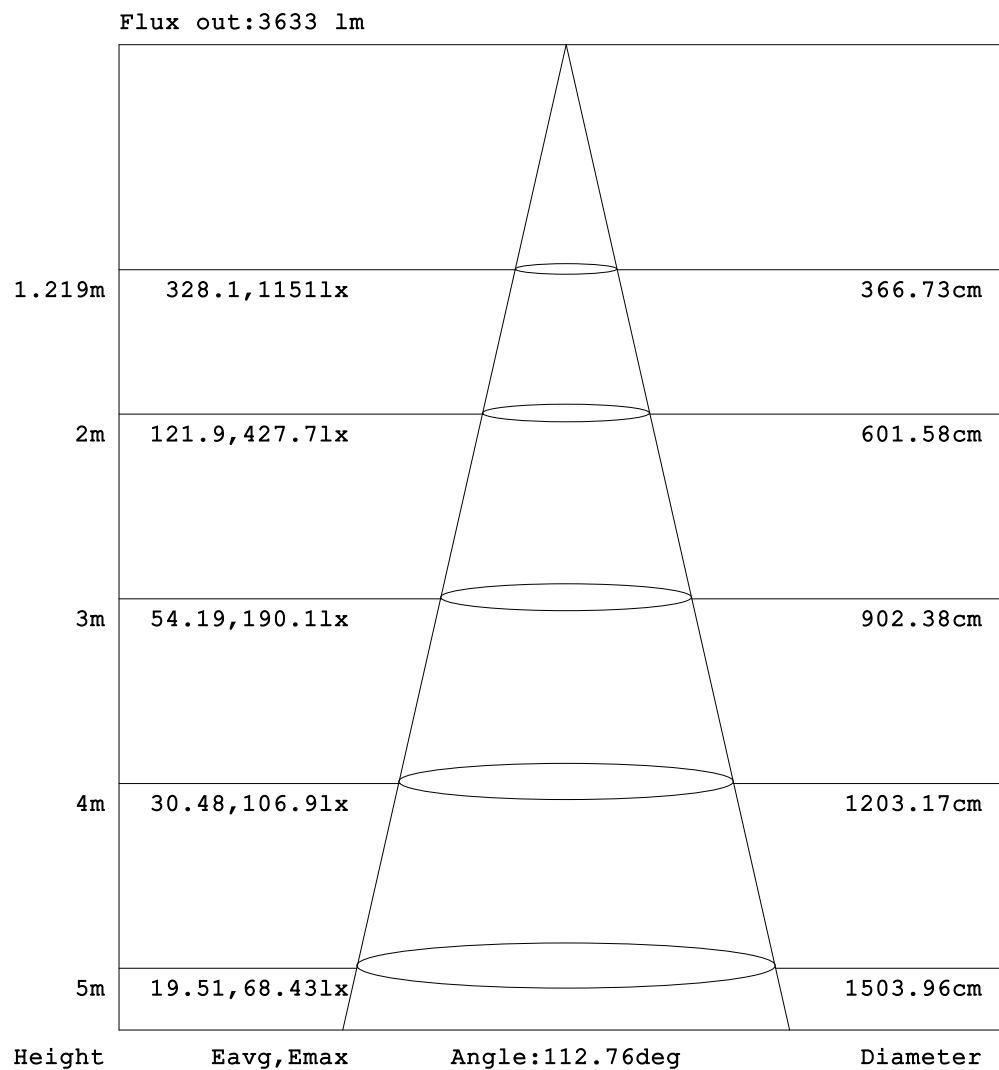
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		



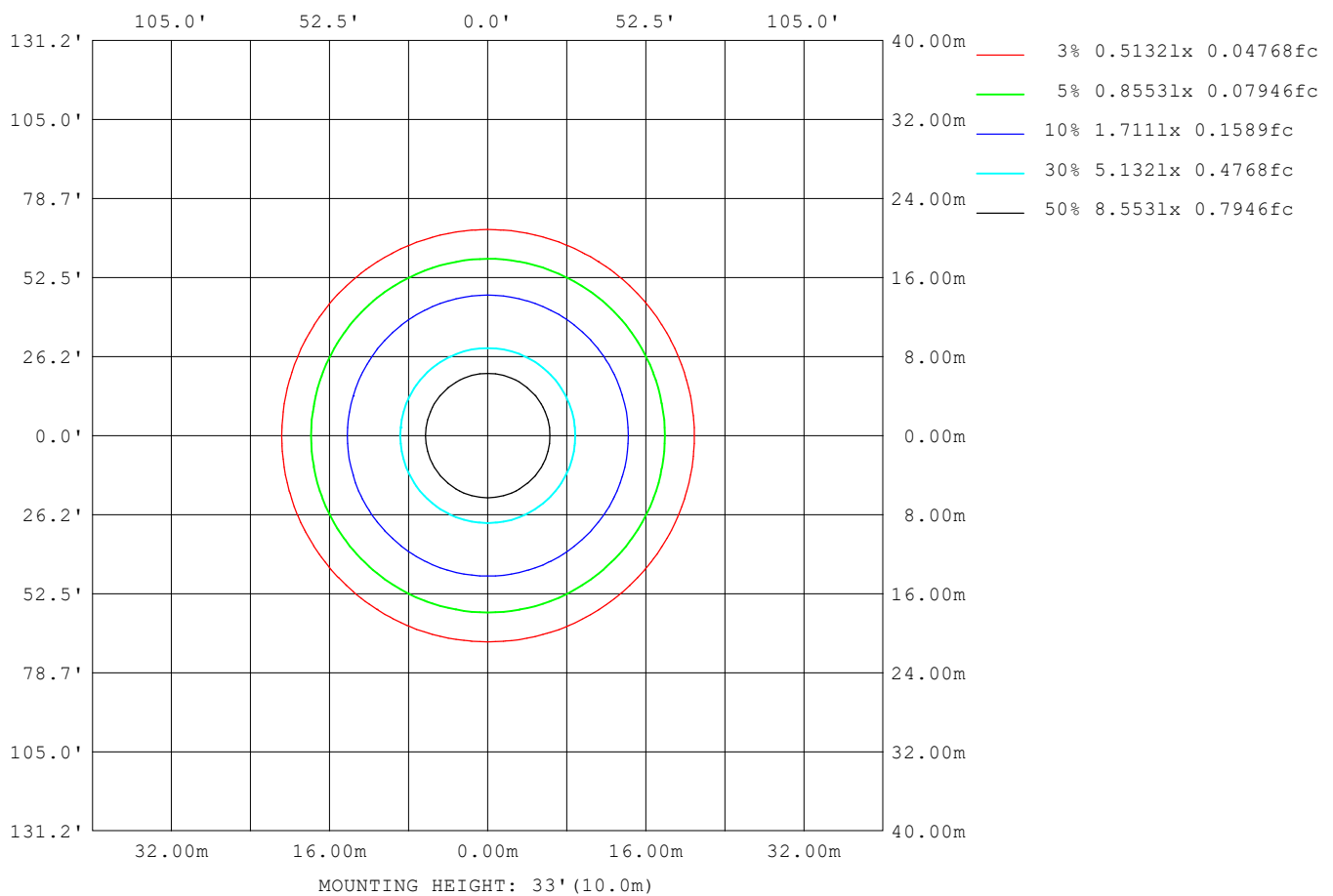
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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:240.1V I:0.2041A P:47.41W PF:0.9673 Lamp Flux:4930.74x1 lm		
NAME: MRS SPIN 600_NA_WHT_350mA_4000K CRI80		
MFR.: DARKON		

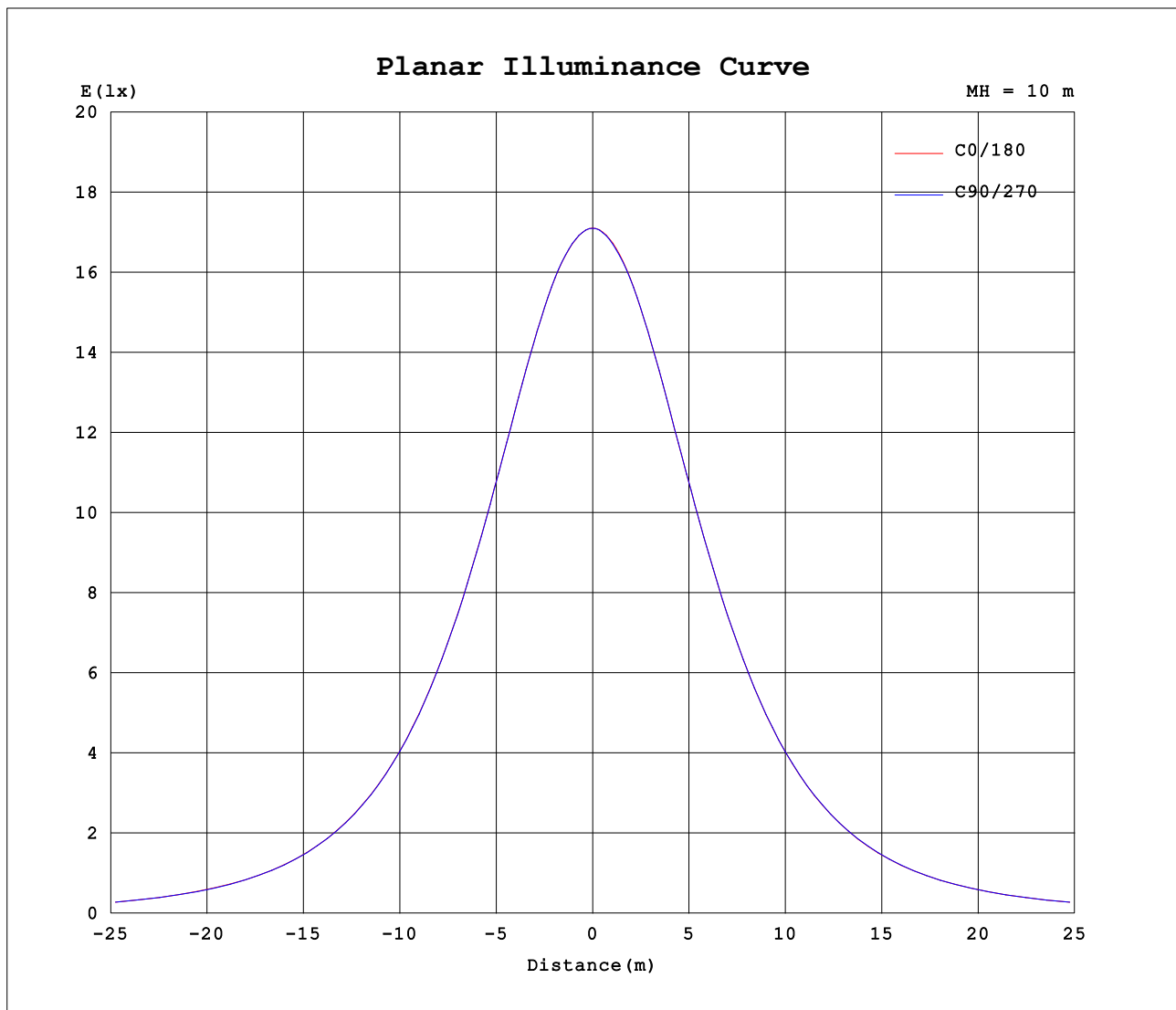
AvgL	cd/m2
L_0~180 (65) av	5176
L_0~180 (75) av	4632
L_0~180 (85) av	3683
L_90~270 (65) av	5171
L_90~270 (75) av	4625
L_90~270 (85) av	3668
L_45 (65) av	5174
L_45 (75) av	4627
L_45 (85) av	3675

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
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: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 03 July 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.892m [K=1.0000]  
Remarks:

