

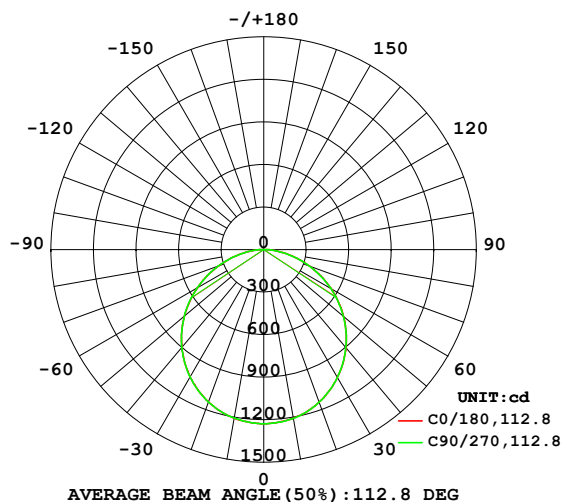
## LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		

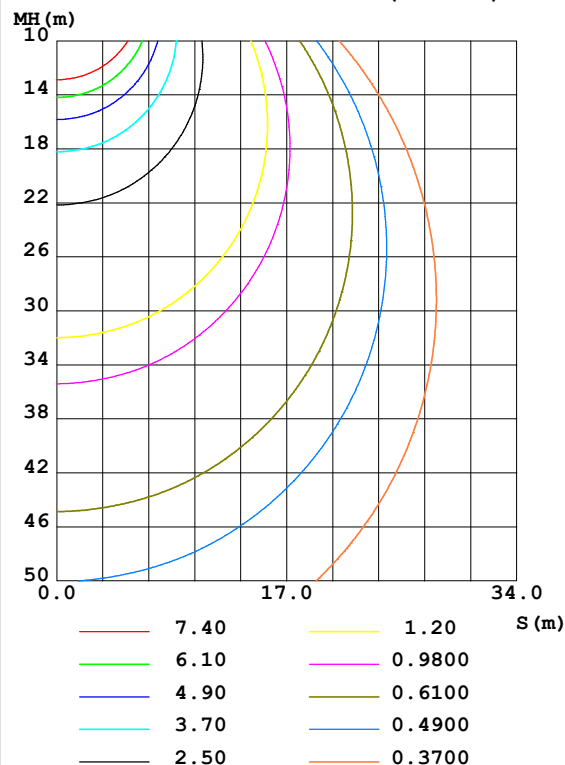
CLE Quadra 4000

DATA OF LAMP		PHOTOMETRIC DATA Eff: 105.11 lm/W			
MODEL: 261mm 1200lm 840 ADV		Imax(cd)	1228	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)	3540.2	$\eta$ UP,DN(C0-180)	0.0,50.1
NOMINAL FLUX(lm)	3540.17	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.9
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	$\eta$ 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

$\gamma$  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:

### ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	1208	1209	1209	1208	1208	1206	1206	1207	0- 10	116.2	116.2	3.28,3.28
20	1145	1145	1145	1144	1142	1143	1143	1144	10- 20	333.3	449.5	12.7,12.7
30	1041	1041	1041	1039	1038	1038	1039	1040	20- 30	505.2	954.8	27,27
40	903.0	902.9	901.6	899.8	898.9	898.7	899.8	901.7	30- 40	609.4	1564	44.2,44.2
50	735.9	735.7	734.0	732.1	731.1	731.1	732.3	734.4	40- 50	632.6	2197	62,62
60	547.0	546.5	544.7	542.7	541.5	541.6	542.8	545.4	50- 60	572.6	2769	78.2,78.2
70	346.0	345.5	343.6	341.2	340.2	340.6	341.8	344.4	60- 70	439.2	3208	90.6,90.6
80	152.0	151.5	149.8	147.6	146.5	146.9	148.2	150.6	70- 80	257.6	3466	97.9,97.9
90	2.402	2.164	1.438	1.053	1.052	1.042	1.049	1.486	80- 90	74.10	3540	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): 1882.8 lm

%lum = 53.2%

%lamp = 53.2%

Conical surface Flux(120deg): 2769.3 lm

%lum = 78.2%

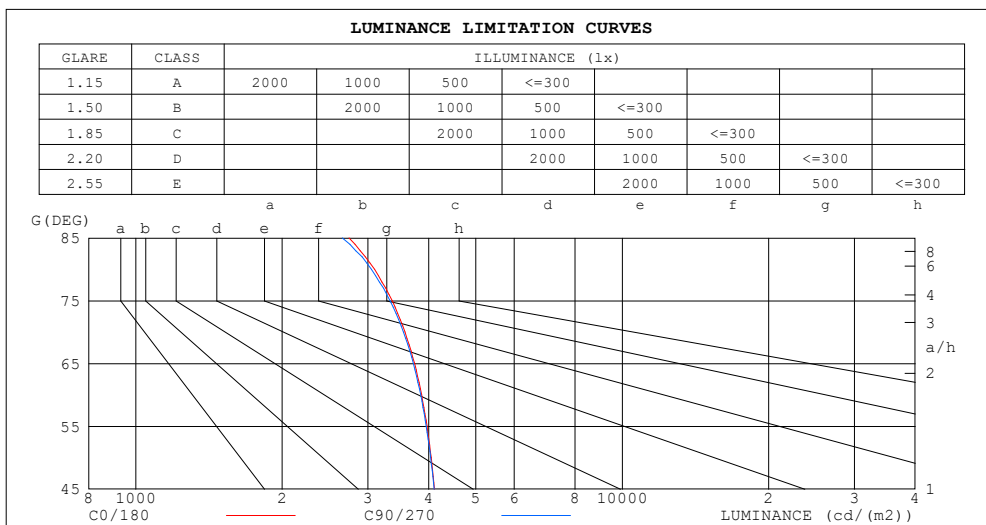
%lamp = 78.2%

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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2744	2660
80	3096	3051
75	3367	3333
70	3577	3553
65	3742	3721
60	3869	3852
55	3969	3955
50	4049	4038
45	4114	4106

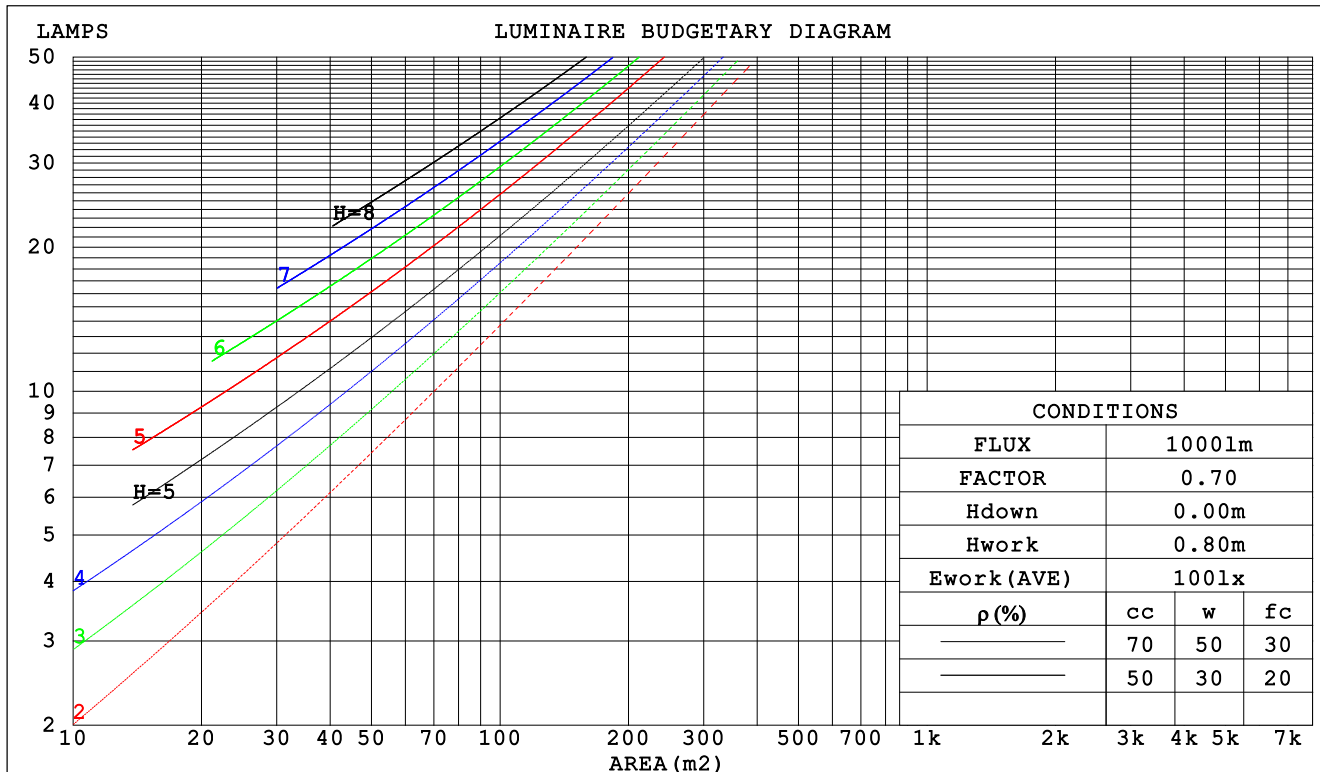
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:03 July 2023

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:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm											
NAME: MRS SPIN 600_NA_WHT_250mA_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	.057	.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	.145	.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	.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: 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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm										
NAME: MRS SPIN 600_NA_WHT_250mA_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	17.7	19.2	18.0	19.4	19.6	17.7	19.2	17.9	19.4	19.6
3H	19.2	20.7	19.5	20.9	21.1	19.2	20.6	19.5	20.9	21.1
4H	19.9	21.2	20.2	21.5	21.7	19.8	21.2	20.2	21.4	21.7
6H	20.3	21.6	20.7	21.9	22.2	20.3	21.6	20.6	21.9	22.1
8H	20.5	21.7	20.8	22.0	22.3	20.5	21.7	20.8	22.0	22.3
12H	20.6	21.8	21.0	22.1	22.4	20.6	21.7	20.9	22.0	22.3
4H 2H	18.3	19.7	18.6	19.9	20.2	18.3	19.6	18.6	19.9	20.2
3H	20.1	21.2	20.4	21.5	21.8	20.0	21.2	20.4	21.5	21.8
4H	20.8	21.9	21.2	22.2	22.6	20.8	21.9	21.2	22.2	22.5
6H	21.4	22.4	21.8	22.7	23.1	21.4	22.3	21.8	22.7	23.1
8H	21.6	22.5	22.0	22.9	23.3	21.6	22.5	22.0	22.9	23.2
12H	21.8	22.6	22.2	23.0	23.4	21.7	22.6	22.2	22.9	23.3
8H 4H	21.1	22.0	21.5	22.4	22.7	21.1	22.0	21.5	22.3	22.7
6H	21.9	22.6	22.3	23.0	23.4	21.8	22.6	22.3	23.0	23.4
8H	22.2	22.8	22.6	23.2	23.7	22.1	22.8	22.6	23.2	23.7
12H	22.4	23.0	22.9	23.4	23.9	22.4	22.9	22.8	23.4	23.8
12H 4H	21.1	21.9	21.5	22.3	22.7	21.1	21.9	21.5	22.3	22.7
6H	21.9	22.6	22.4	23.0	23.5	21.9	22.6	22.4	23.0	23.4
8H	22.3	22.8	22.7	23.3	23.8	22.2	22.8	22.7	23.3	23.7
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	+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 3540 lm Total Lamp Luminous Flux. (8log(F/F0) = 4.4)

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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		

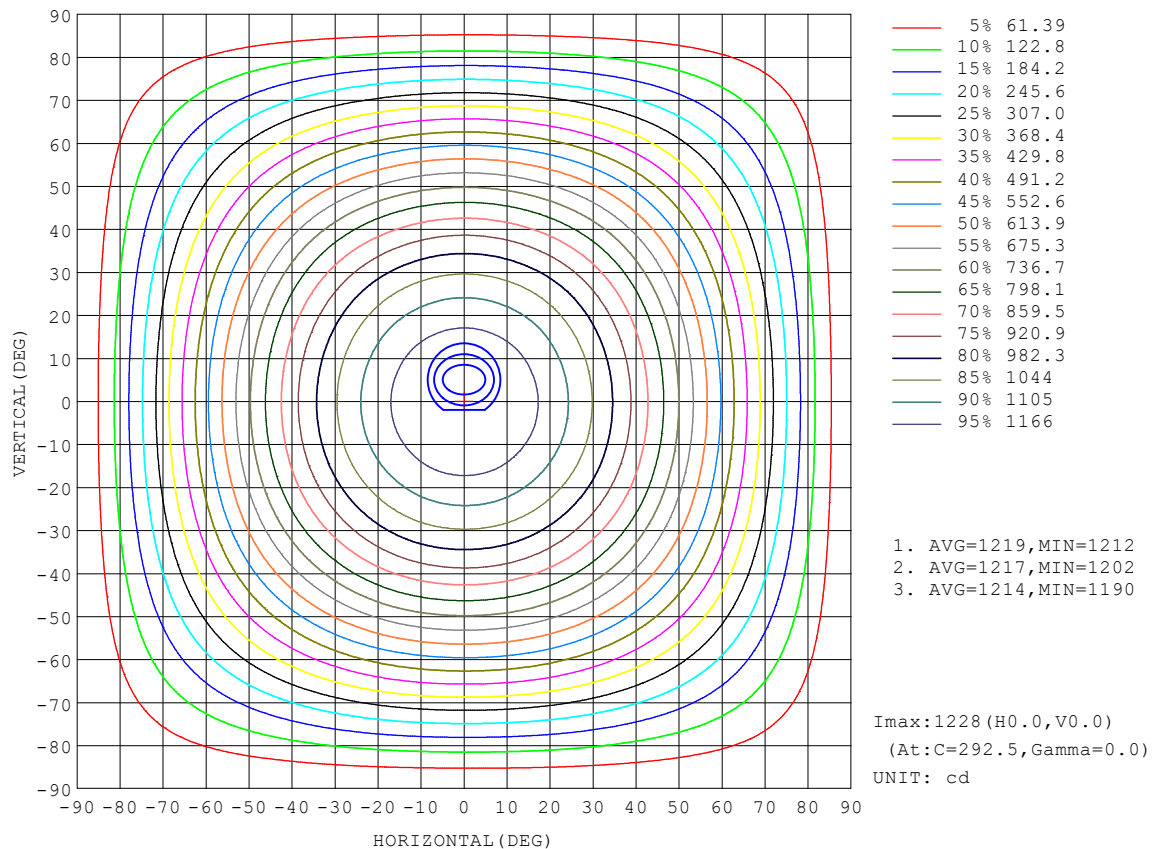
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	74	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	89	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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		



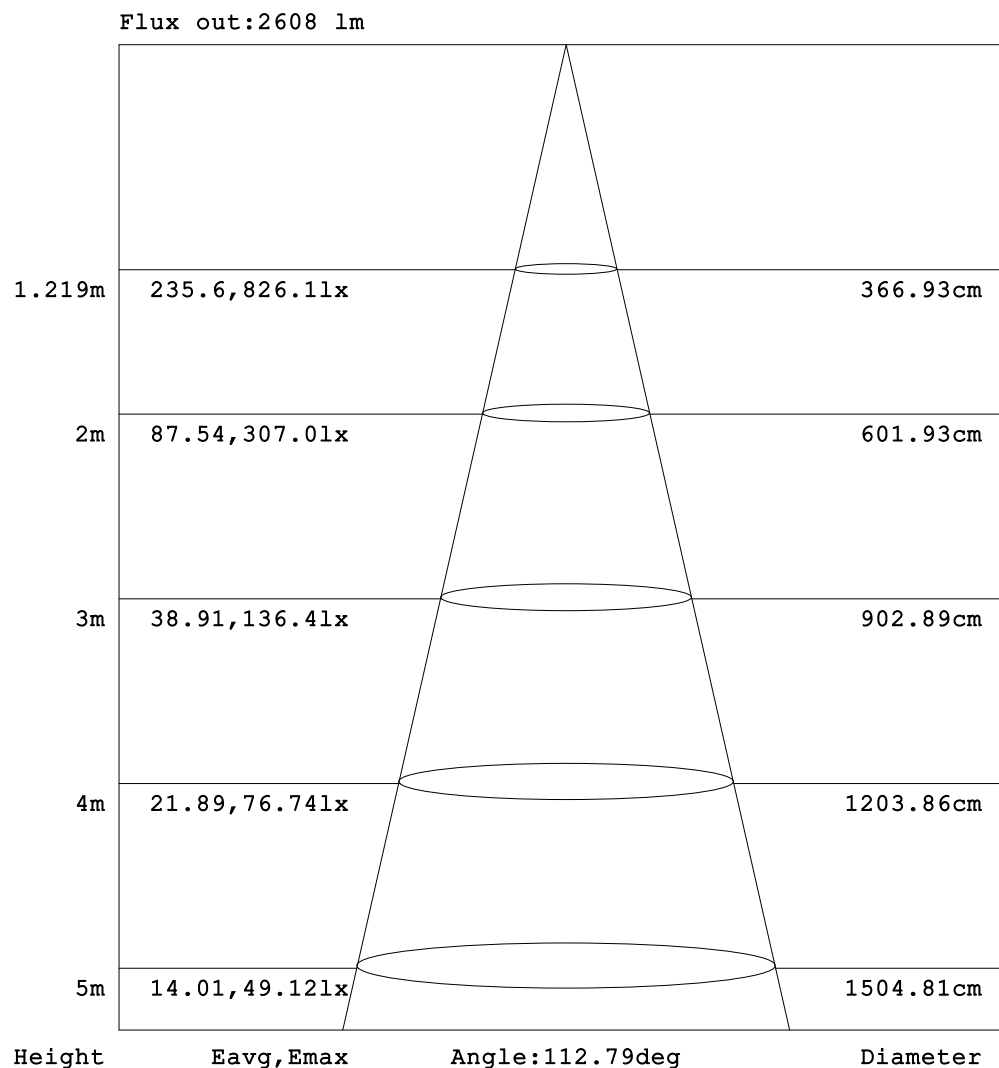
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 03 July 2023

$\gamma$  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:



**AAI Figure**

Test:U:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		



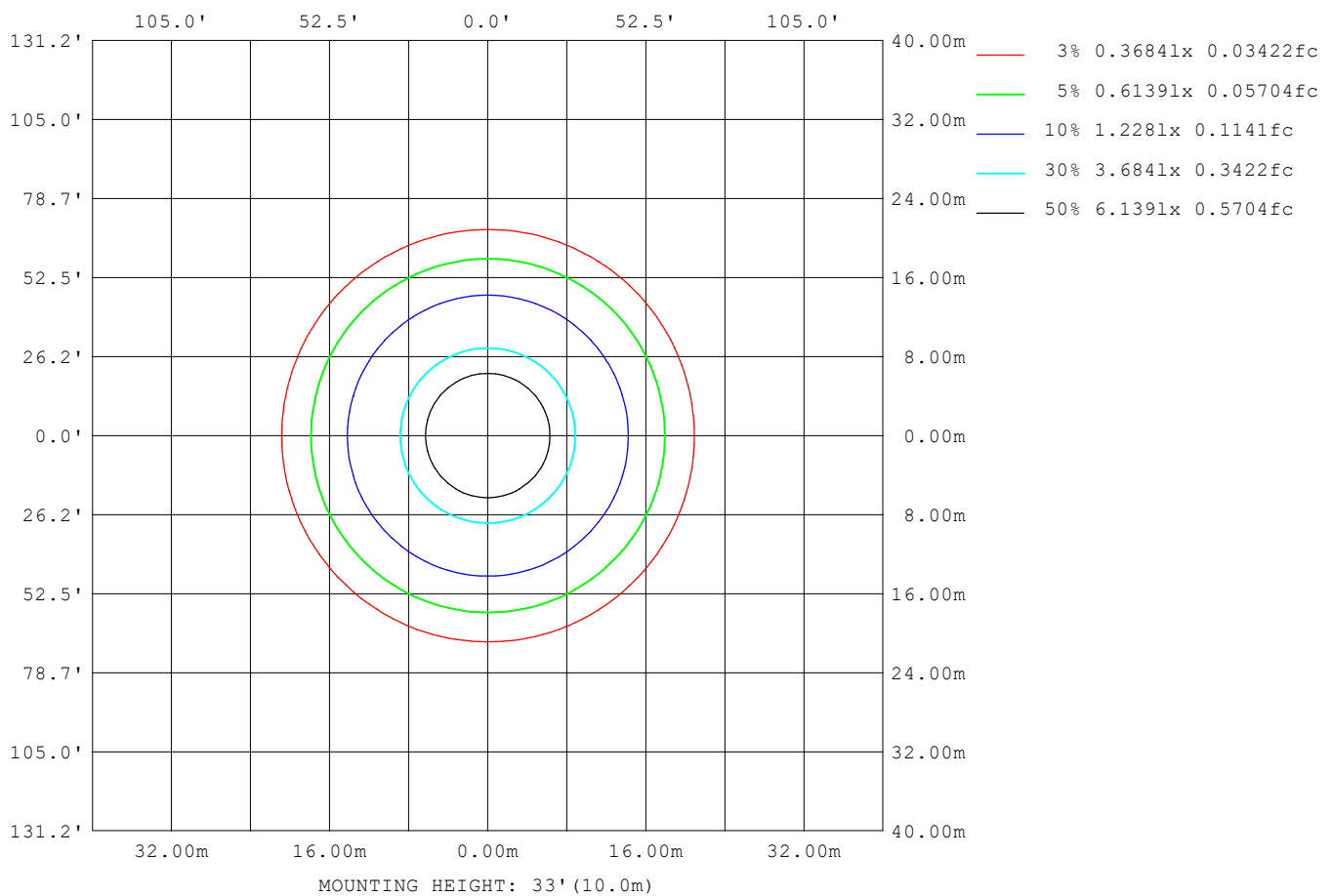
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_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

$\gamma$  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:

### LED Avg.L Report

Test:U:240.2V I:0.1490A P:33.68W PF:0.9412 Lamp Flux:3540.17x1 lm		
NAME: MRS SPIN 600_NA_WHT_250mA_4000K CRI80		
MFR.: DARKON		

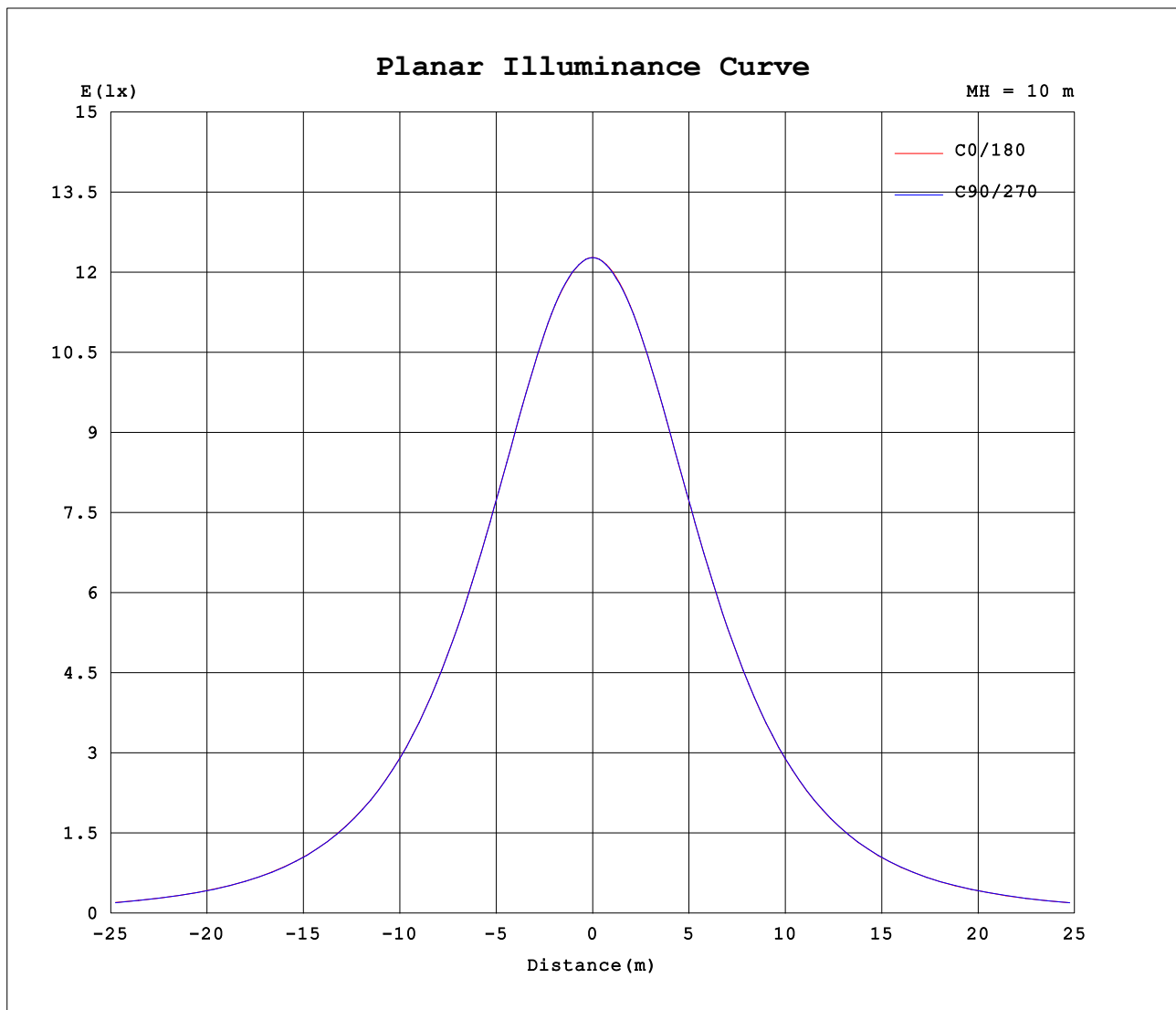
AvgL	cd/m2
L_0~180 (65) av	3717
L_0~180 (75) av	3330
L_0~180 (85) av	2642
L_90~270 (65) av	3714
L_90~270 (75) av	3322
L_90~270 (85) av	2633
L_45 (65) av	3715
L_45 (75) av	3326
L_45 (85) av	2637

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:

