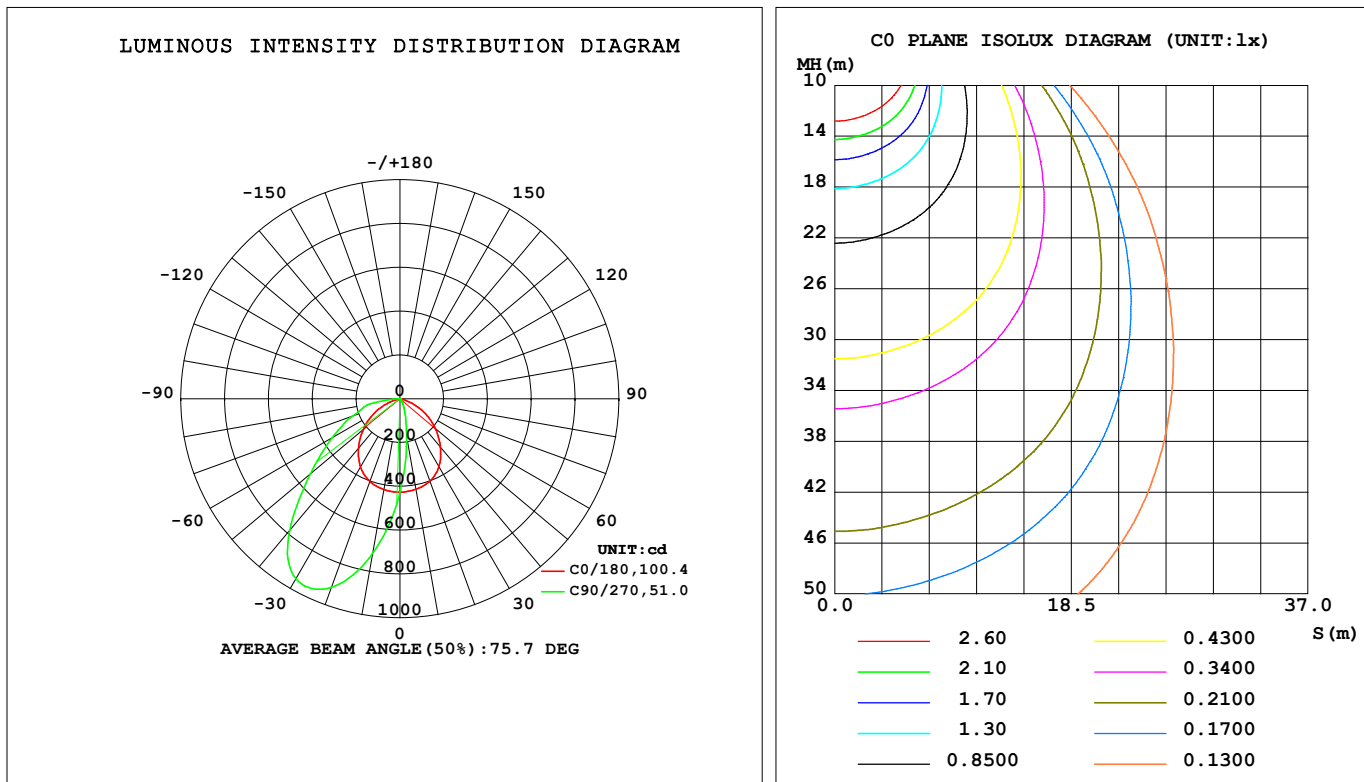


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL_WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 58.49 lm/W
MODEL	9 x LUMINUS SST-20-W	I <sub>max</sub> (cd)	958.8	S/MH (C0/180)	1.25	
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.86	
RATED VOLTAGE (V)	220.0	TOTAL FLUX (lm)	1207.2	η UP,DN (C0-180)	0.0,11.8	
NOMINAL FLUX (lm)	1207.17	CIE CLASS	DIRECT	η UP,DN (C180-360)	0.0,88.2	
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.00	
TEST VOLTAGE (V)	230	η down (%)	100.0	CIBSE SHR MAX	1.00	



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 7.250m [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	419.8	239.3	180.5	239.2	421.6	629.4	714.8	630.9	0- 10	41.20	41.20	3.41,3.41
20	400.7	116.1	68.24	115.5	402.1	769.5	916.1	773.1	10- 20	125.2	166.4	13.8,13.8
30	357.3	56.85	28.64	56.02	360.8	778.6	949.0	775.7	20- 30	201.9	368.3	30.5,30.5
40	288.0	25.24	9.297	24.73	294.8	668.4	783.2	656.0	30- 40	240.0	608.4	50.4,50.4
50	211.1	7.133	0.5206	7.067	218.8	497.2	533.8	480.5	40- 50	224.0	832.3	68.9,68.9
60	130.8	0.3203	0.3824	0.2671	139.5	327.6	359.0	315.5	50- 60	177.0	1009	83.6,83.6
70	52.18	0.3069	0.6670	0.2632	57.91	181.6	230.9	177.5	60- 70	119.9	1129	93.5,93.5
80	1.363	0.6423	1.282	0.5765	4.733	79.53	139.7	81.05	70- 80	63.13	1192	98.8,98.8
90	0.2727	1.003	1.301	0.9936	0.2727	0	0	0	80- 90	14.75	1207	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): 725.03 lm

%lum = 60.1%

%lamp = 60.1%

Conical surface Flux(120deg): 1009.4 lm

%lum = 83.6%

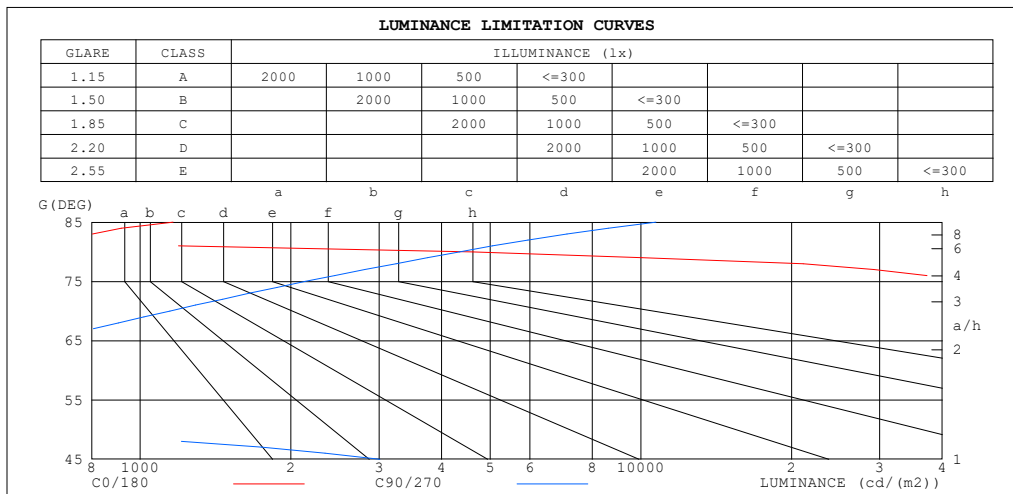
%lamp = 83.6%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**LUMINANCE LIMITATION CURVES**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1163	10720
80	4619	4342
75	45981	2137
70	89737	1147
65	126588	654
60	153885	450
55	175620	408
50	193161	476
45	207786	3010

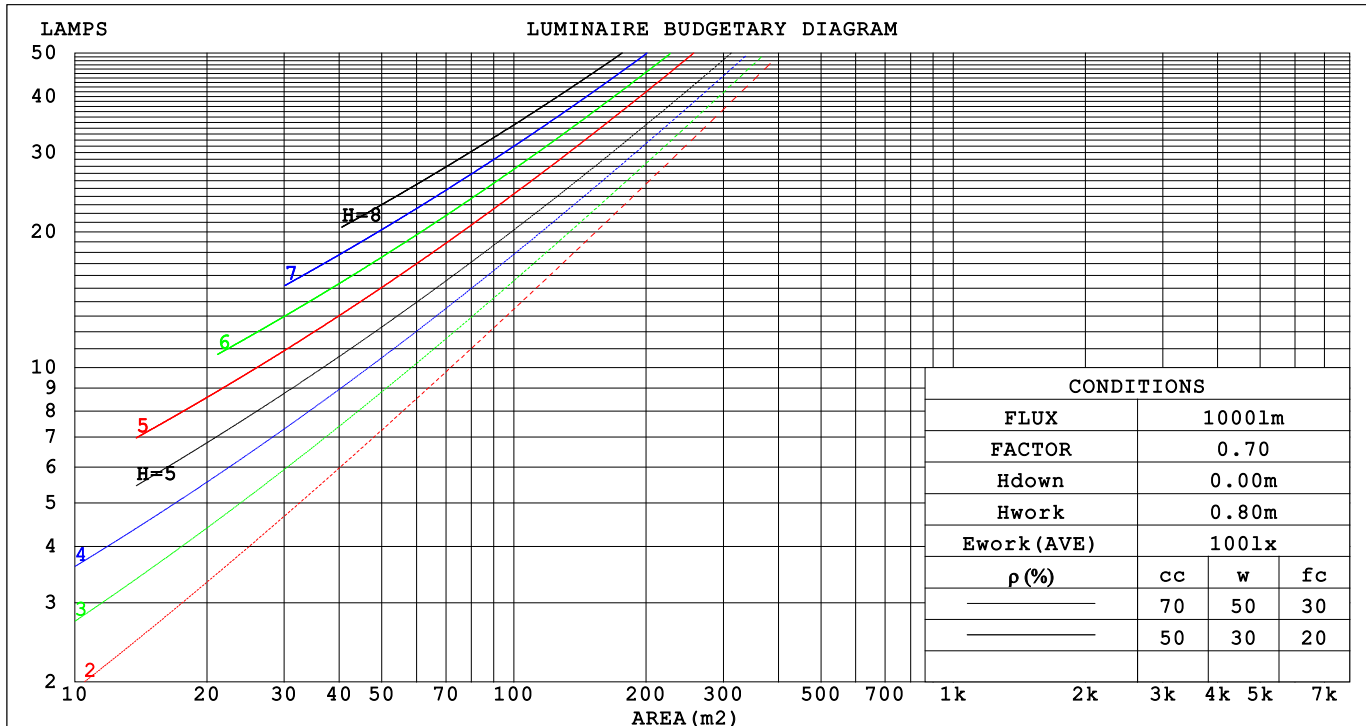
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
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															



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**WEC AND CCEC**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
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	.285	.162	.051	.278	.159	.050	.265	.152	.049	.253	.146	.047	.242	.140	.045	
2.0	.272	.149	.046	.266	.147	.045	.254	.142	.044	.244	.137	.043	.234	.132	.042	
3.0	.254	.135	.041	.249	.133	.040	.239	.129	.039	.229	.126	.039	.221	.122	.038	
4.0	.237	.123	.036	.232	.121	.036	.223	.118	.035	.214	.115	.035	.207	.112	.034	
5.0	.220	.112	.032	.216	.111	.032	.208	.108	.032	.201	.106	.031	.194	.103	.031	
6.0	.205	.103	.029	.202	.102	.029	.194	.100	.029	.188	.098	.029	.182	.096	.028	
7.0	.192	.095	.027	.189	.094	.027	.182	.092	.027	.176	.090	.026	.171	.089	.026	
8.0	.180	.088	.025	.177	.087	.025	.171	.086	.024	.166	.084	.024	.161	.083	.024	
9.0	.169	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.022	.152	.077	.022	
10.0	.160	.077	.021	.157	.076	.021	.153	.075	.021	.148	.074	.021	.144	.073	.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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.061	.057	.046	.035	.018	.015	.012	
3.0	.161	.114	.077	.138	.099	.066	.095	.068	.047	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.052	.036	.022	.017	.012	.007	
5.0	.146	.090	.049	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.015	.010	.005	
7.0	.133	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.099	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm											
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA					TYPE:LED			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
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	2H	24.3	25.8	24.6	26.0	26.2	4.7	6.1	5.0	6.3	6.5
	3H	25.3	26.7	25.6	26.9	27.1	4.6	5.9	4.9	6.1	6.4
	4H	25.5	26.7	25.8	27.0	27.2	4.7	6.0	5.0	6.2	6.5
	6H	25.4	26.6	25.7	26.9	27.1	5.3	6.5	5.7	6.8	7.1
	8H	25.4	26.5	25.7	26.8	27.1	6.1	7.2	6.4	7.5	7.8
	12H	25.3	26.4	25.6	26.7	27.0	7.2	8.3	7.5	8.6	8.9
4H	2H	24.0	25.3	24.3	25.5	25.8	6.0	7.2	6.3	7.5	7.7
	3H	25.0	26.1	25.4	26.4	26.7	5.9	7.0	6.2	7.3	7.6
	4H	25.2	26.2	25.5	26.5	26.8	6.0	7.0	6.4	7.3	7.7
	6H	25.1	26.0	25.5	26.4	26.7	6.7	7.6	7.1	8.0	8.4
	8H	25.1	25.9	25.5	26.3	26.6	7.6	8.4	8.0	8.8	9.1
	12H	25.0	25.8	25.4	26.2	26.6	8.8	9.6	9.3	10.0	10.4
8H	4H	25.0	25.8	25.4	26.2	26.6	6.0	6.9	6.4	7.2	7.6
	6H	25.0	25.7	25.4	26.1	26.5	7.0	7.7	7.5	8.1	8.6
	8H	24.9	25.5	25.4	26.0	26.4	8.2	8.8	8.6	9.2	9.6
	12H	24.9	25.4	25.4	25.9	26.3	9.9	10.4	10.3	10.8	11.3
12H	4H	25.0	25.7	25.4	26.1	26.5	6.0	6.8	6.4	7.2	7.6
	6H	24.9	25.5	25.4	26.0	26.4	7.1	7.7	7.5	8.1	8.6
	8H	24.9	25.4	25.4	25.9	26.3	8.3	8.8	8.8	9.3	9.8
Variations with the observer position at spacings:											
S = 1.0H	+ 2.6 / - 2.9					+ 1.6 / - 1.9					
1.5H	+ 3.8 / - 7.6					+ 2.3 / - 1.8					
2.0H	+ 5.1 / -12.5					+ 0.9 / - 0.5					

CIE Pub.117, 1207 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.7)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

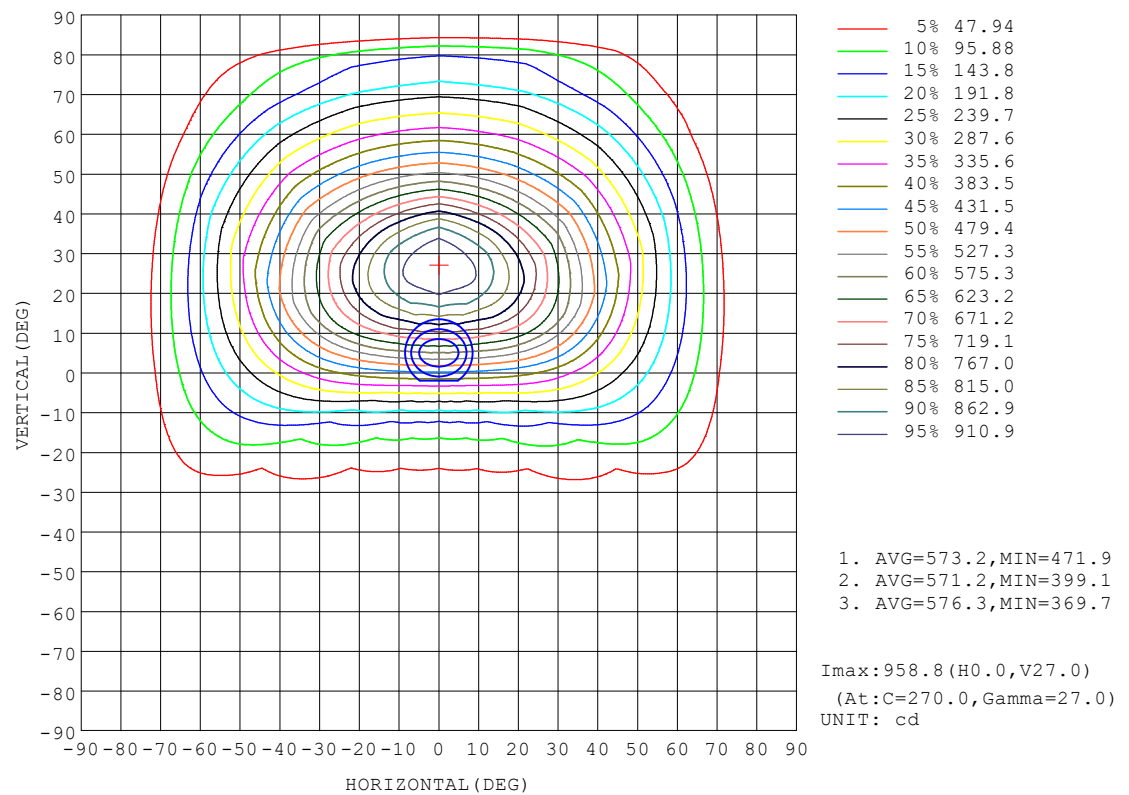
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	50	43	59	49	43	37
0.80	71	60	53	70	59	53	68	59	52	46
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	76	70	85	76	69	82	74	68	62
1.50	91	82	75	89	81	75	86	79	74	67
2.00	97	89	83	95	88	83	92	86	81	74
2.50	101	94	88	99	92	87	95	90	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	107	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
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:15 December 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



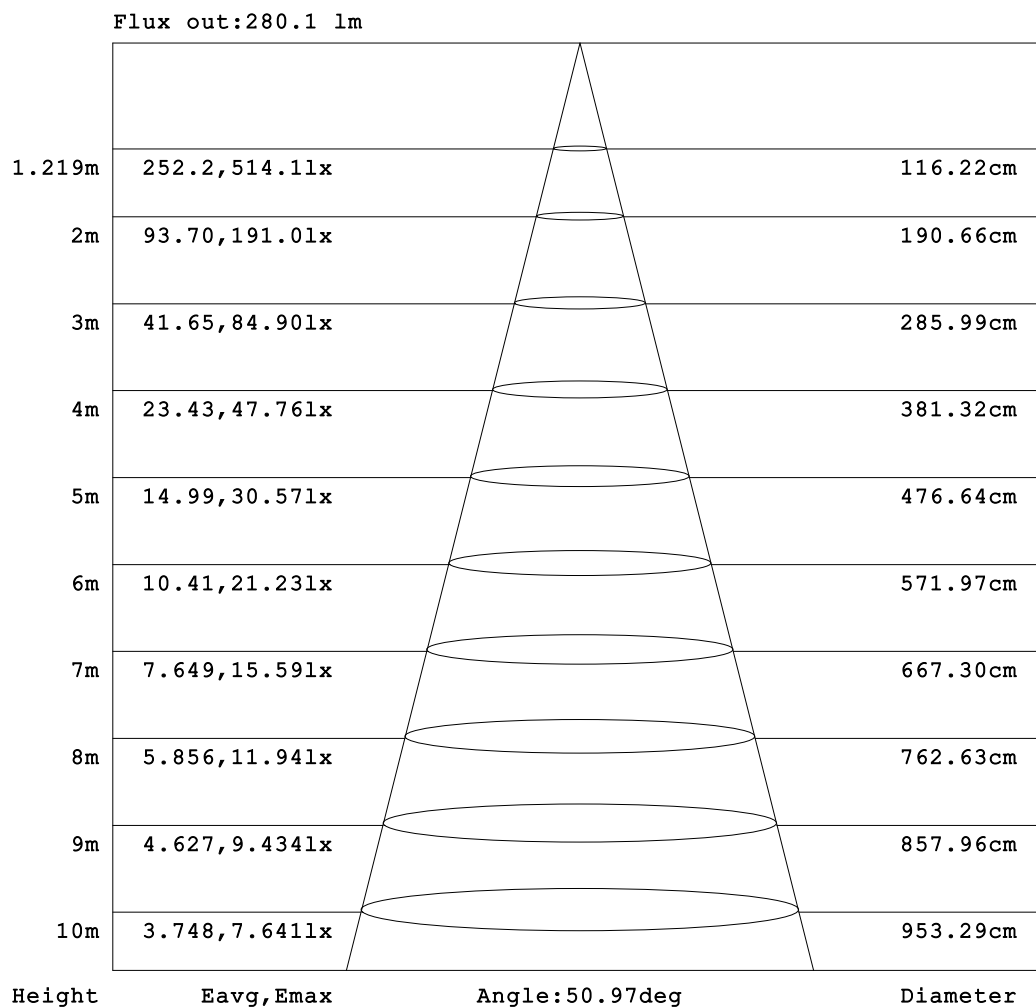
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 15 December 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 7.250m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



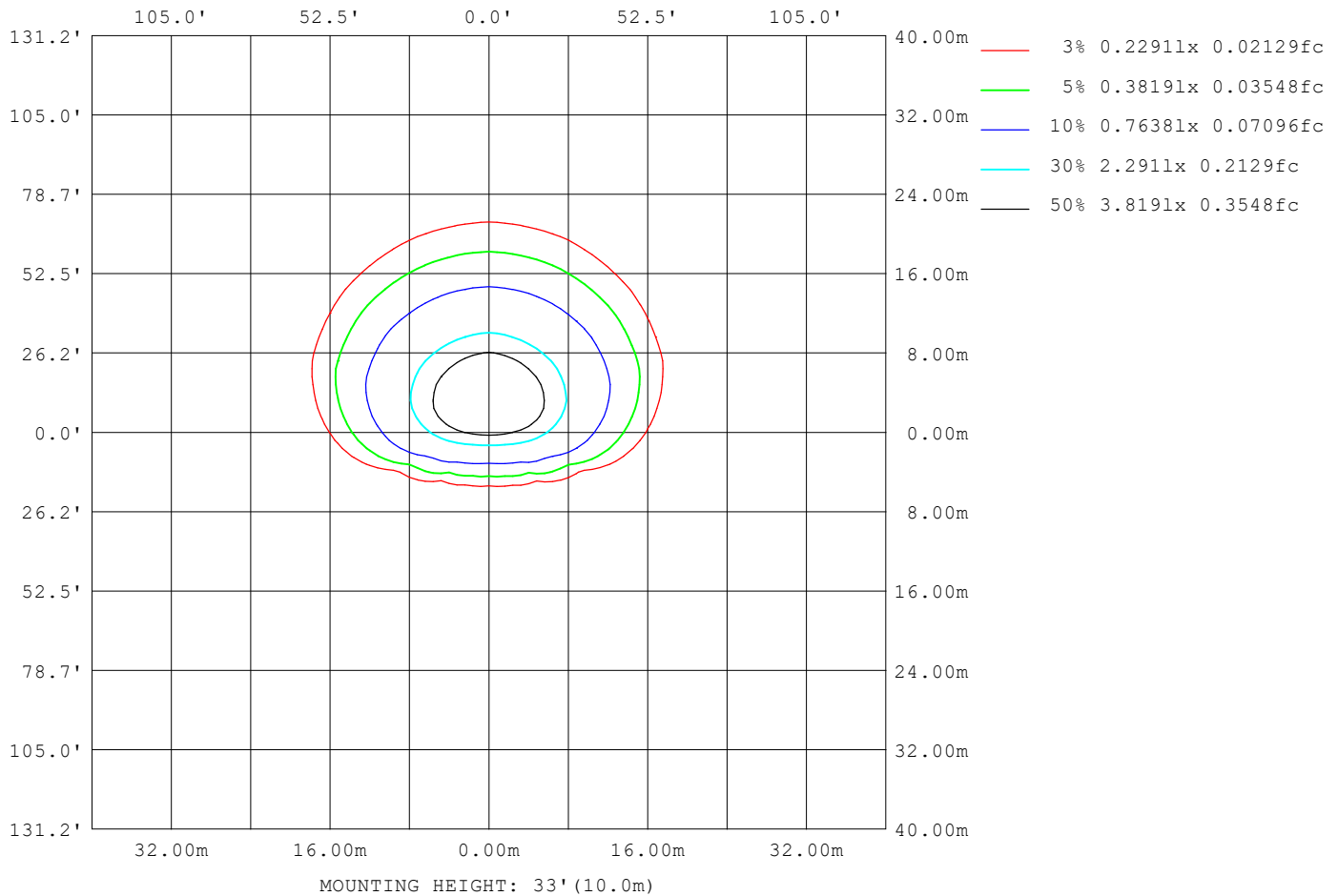
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL_WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [K=1.0000]  
Remarks:

**LED Avg.L Report**

Test:U:239.94V I:0.0965A P:20.638W PF:0.8917 Freq:50.09Hz Lamp Flux:1207.17x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_700mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

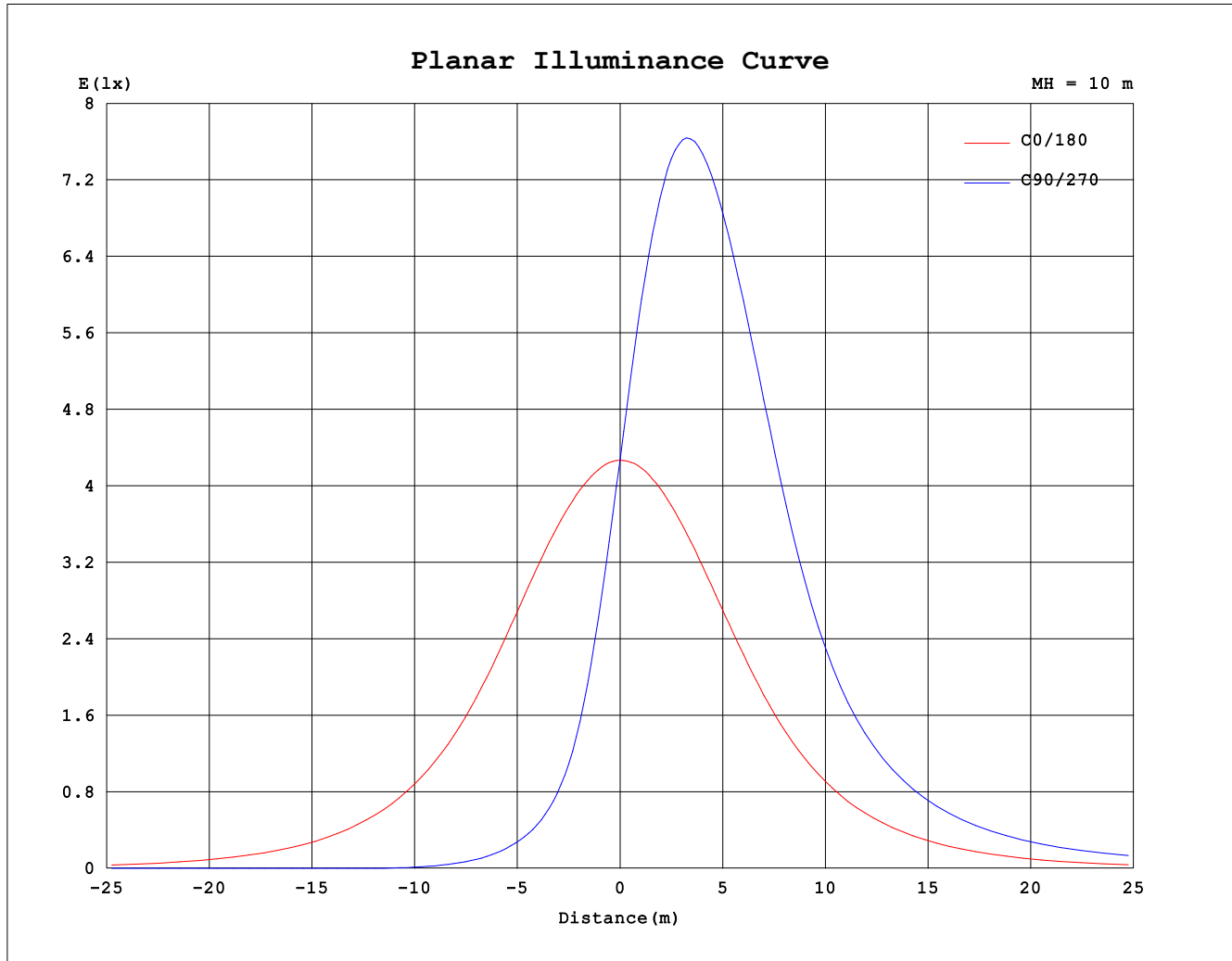
AvgL	cd/m2
L_0~180 (65) av	131613
L_0~180 (75) av	50146
L_0~180 (85) av	2298
L_90~270 (65) av	202680
L_90~270 (75) av	206854
L_90~270 (85) av	109965
L_45 (65) av	173100
L_45 (75) av	136531
L_45 (85) av	95592

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:15 December 2020

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.250m [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: 15 December 2020

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 7.250m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:65.0%
Test Distance:7.250m [K=1.0000]
Remarks:

```