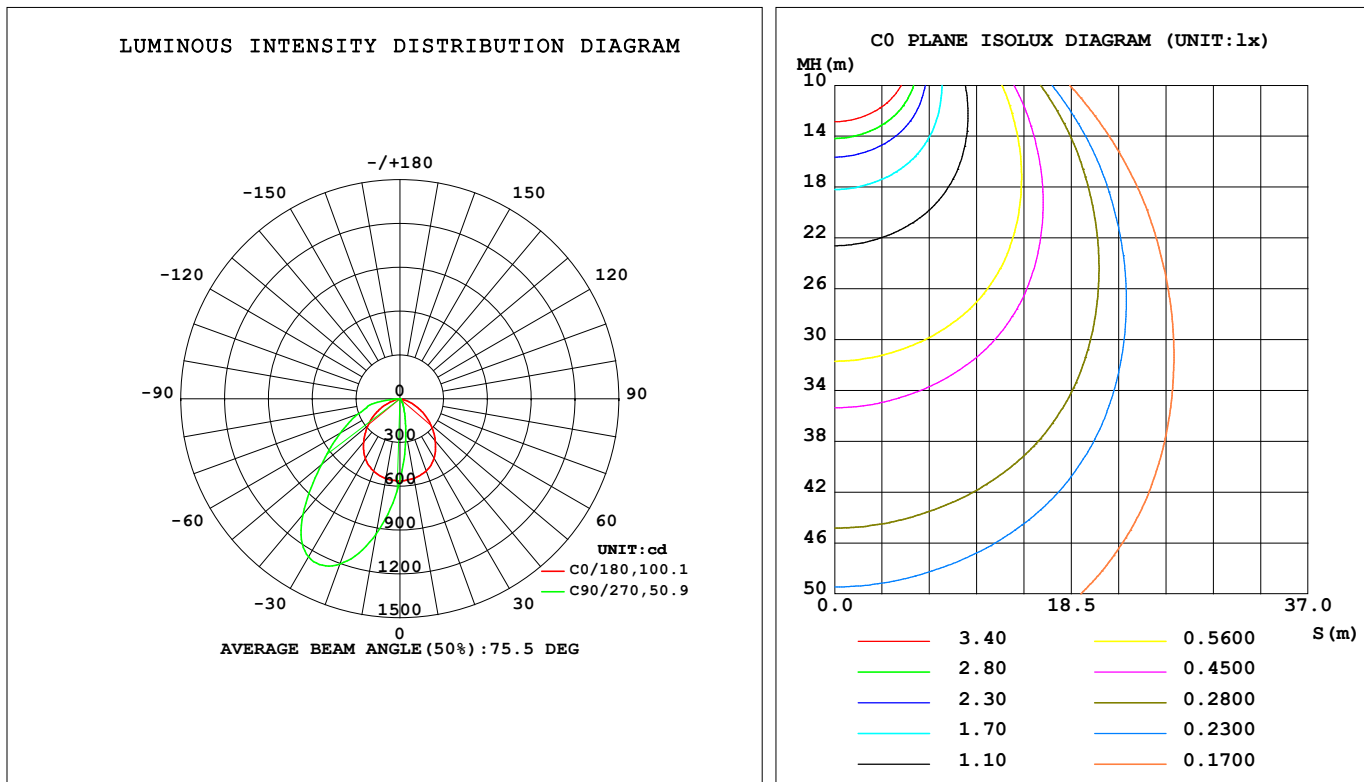


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:239.94V I:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 53.49 lm/W
MODEL	9 x LUMINUS SST-20-W	I _{max} (cd)	1263	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)	1585.8	η UP,DN (C0-180)	0.0,11.8	
NOMINAL FLUX (lm)	1585.78	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:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	552.9	313.7	236.2	314.0	555.4	825.8	938.7	826.1	0- 10	54.09	54.09	3.41,3.41
20	526.9	152.0	89.37	151.5	528.7	1012	1205	1014	10- 20	164.4	218.5	13.8,13.8
30	469.1	74.31	37.66	73.32	474.4	1025	1251	1018	20- 30	265.2	483.8	30.5,30.5
40	377.8	33.07	12.25	32.52	387.8	879.7	1035	859.4	30- 40	315.6	799.3	50.4,50.4
50	276.3	9.376	0.7430	9.365	287.5	654.5	703.1	629.1	40- 50	294.3	1094	69,69
60	171.2	0.4923	0.5830	0.3934	182.9	431.6	472.7	413.6	50- 60	232.5	1326	83.6,83.6
70	67.80	0.4794	0.9741	0.3854	76.10	239.6	303.4	231.5	60- 70	157.5	1484	93.6,93.6
80	1.761	0.9271	1.786	0.8049	6.382	104.7	180.0	105.9	70- 80	82.85	1567	98.8,98.8
90	0.3949	1.348	1.733	1.335	0.4074	0.0125	0.0345	0.0188	80- 90	19.23	1586	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): 952.68 lm

%lum = 60.1%

%lamp = 60.1%

Conical surface Flux(120deg): 1326.2 lm

%lum = 83.6%

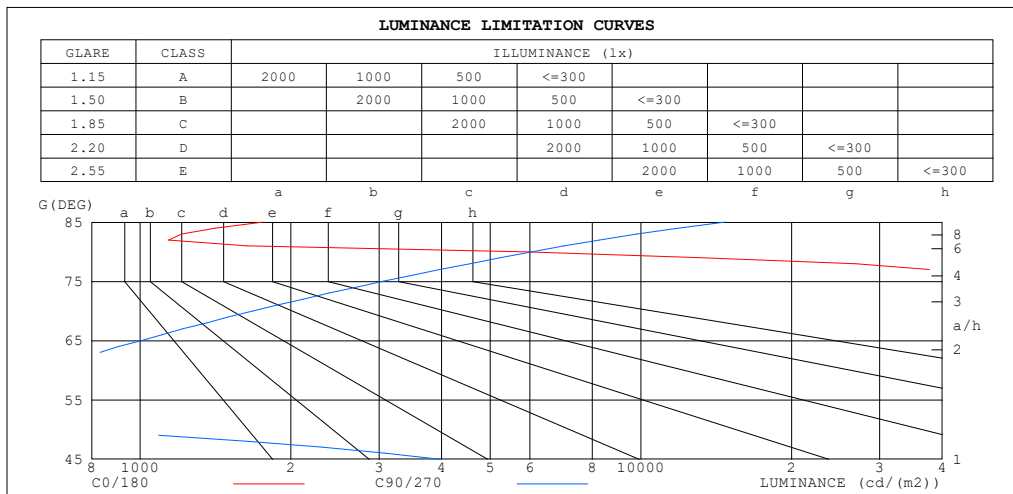
%lamp = 83.6%

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

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:

LUMINANCE LIMITATION CURVES

Test:U:239.94V I:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1756	14701
80	5966	6049
75	59596	3049
70	116611	1675
65	164165	1007
60	201409	686
55	229870	614
50	252807	680
45	272190	3969

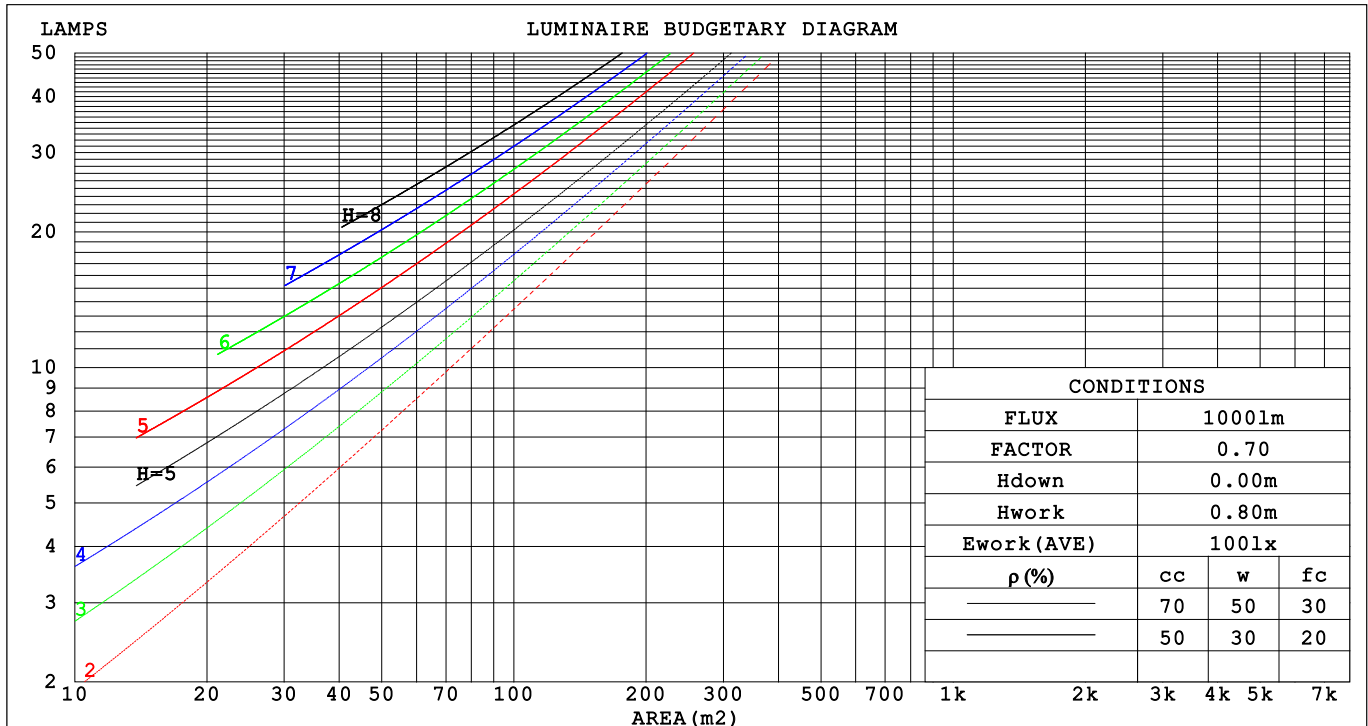
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:JEFF
Test Date:15 December 2020

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.94V I:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	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						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	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.87	.85
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.75	.69	.65	.72	.68	.64	.62
4.0	.73	.64	.58	.72	.64	.58	.69	.62	.57	.67	.61	.56	.65	.60	.55	.53
5.0	.65	.57	.50	.64	.56	.50	.62	.55	.50	.60	.54	.49	.58	.53	.48	.46
6.0	.59	.50	.44	.58	.50	.44	.56	.49	.44	.55	.48	.43	.53	.47	.43	.41
7.0	.54	.45	.39	.53	.45	.39	.51	.44	.39	.50	.43	.38	.49	.43	.38	.36
8.0	.49	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.34	.32
9.0	.45	.37	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.33	.28	.39	.33	.28	.38	.32	.28	.27



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:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	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	.146	.045	.254	.141	.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	.161	.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:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm											
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA					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	24.3	25.8	24.6	26.0	26.2	4.7	6.1	4.9	6.3	6.5	
	3H	25.3	26.6	25.6	26.9	27.1	4.6	5.9	4.9	6.2	6.4
	4H	25.4	26.7	25.7	26.9	27.2	4.8	6.0	5.1	6.3	6.5
	6H	25.4	26.5	25.7	26.8	27.1	5.5	6.7	5.8	7.0	7.2
	8H	25.3	26.5	25.6	26.7	27.0	6.3	7.4	6.6	7.7	8.0
	12H	25.2	26.4	25.6	26.6	26.9	7.4	8.5	7.8	8.8	9.1
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	25.3	26.4	26.7	5.9	7.0	6.2	7.3	7.6
	4H	25.1	26.1	25.5	26.4	26.8	6.1	7.1	6.4	7.4	7.7
	6H	25.1	26.0	25.5	26.3	26.7	6.9	7.8	7.3	8.1	8.5
	8H	25.0	25.8	25.4	26.2	26.6	7.8	8.6	8.2	9.0	9.3
	12H	25.0	25.7	25.4	26.1	26.5	9.1	9.8	9.5	10.2	10.6
8H	4H	25.0	25.8	25.4	26.2	26.5	6.1	6.9	6.5	7.3	7.7
	6H	24.9	25.6	25.4	26.0	26.4	7.2	7.9	7.7	8.3	8.7
	8H	24.9	25.5	25.3	25.9	26.4	8.4	9.0	8.8	9.4	9.9
	12H	24.8	25.4	25.3	25.8	26.3	10.1	10.6	10.6	11.1	11.6
12H	4H	24.9	25.7	25.3	26.1	26.5	6.1	6.8	6.5	7.2	7.6
	6H	24.9	25.5	25.3	25.9	26.4	7.3	7.9	7.7	8.3	8.7
	8H	24.8	25.4	25.3	25.8	26.3	8.6	9.1	9.0	9.5	10.0
Variations with the observer position at spacings:											
S = 1.0H	+ 2.6 / - 2.9					+ 1.5 / - 1.7					
1.5H	+ 3.8 / - 7.6					+ 2.1 / - 1.6					
2.0H	+ 5.1 / -12.5					+ 0.8 / - 0.5					

CIE Pub.117, 1586 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.6)

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:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

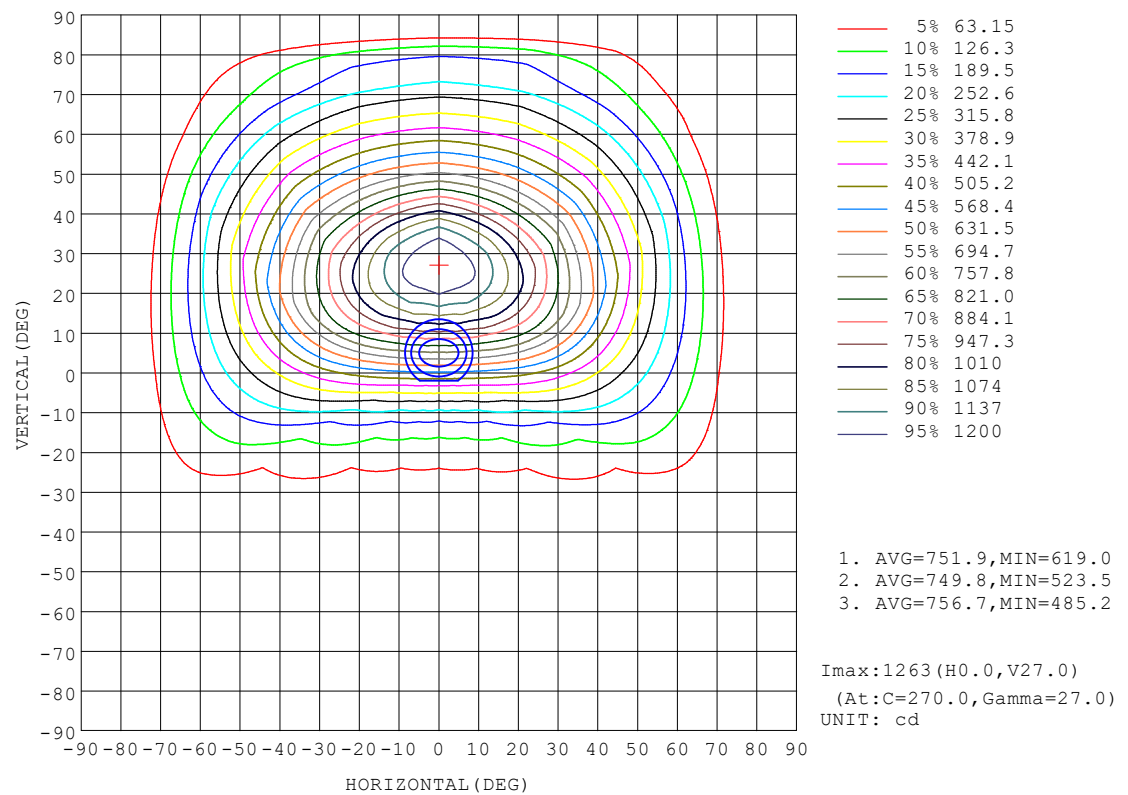
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	61	50	43	60	50	43	59	49	43	37
0.80	71	60	53	70	60	53	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	69	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

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:

ISOCANDELA DIAGRAM

Test:U:239.94V I:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

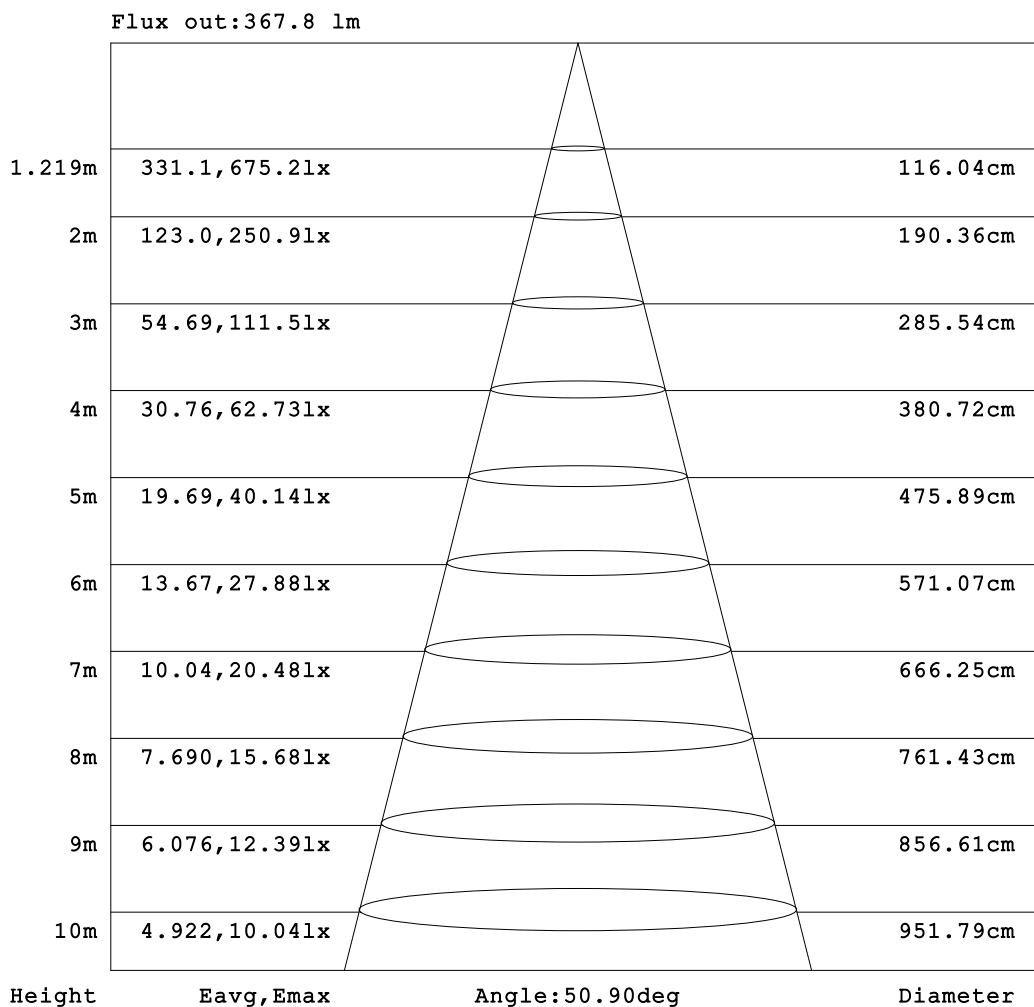


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: JEFF
Test Date: 15 December 2020

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:

AAI Figure

Test:U:239.94V I:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:



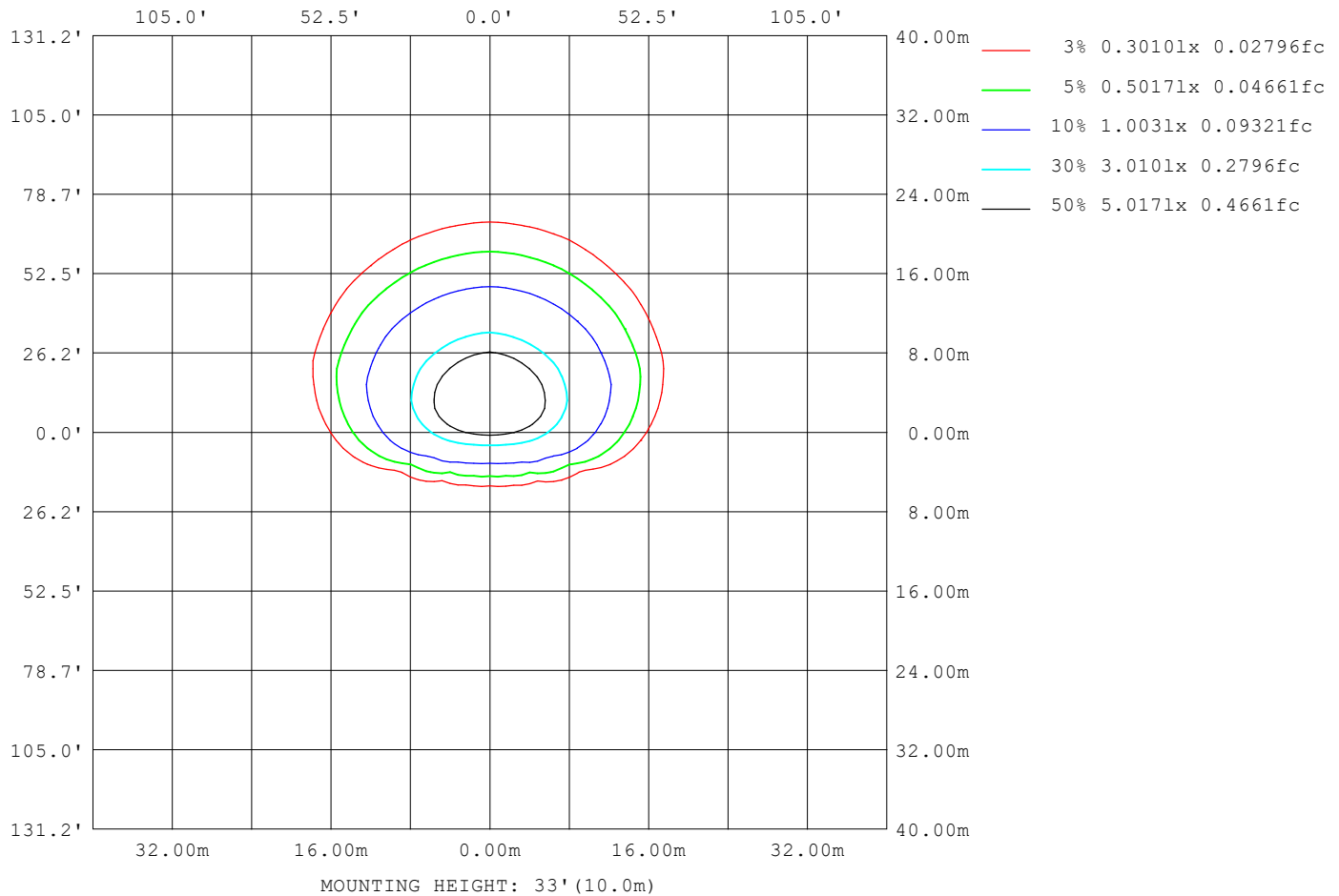
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	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:0.1350A P:29.646W PF:0.9151 Freq:0Hz Lamp Flux:1585.78x1 lm		
NAME: QUIVER_REC_WHT_4K_WALL WASH_1050mA	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: DARKON	SUR.:	Shielding Angle:

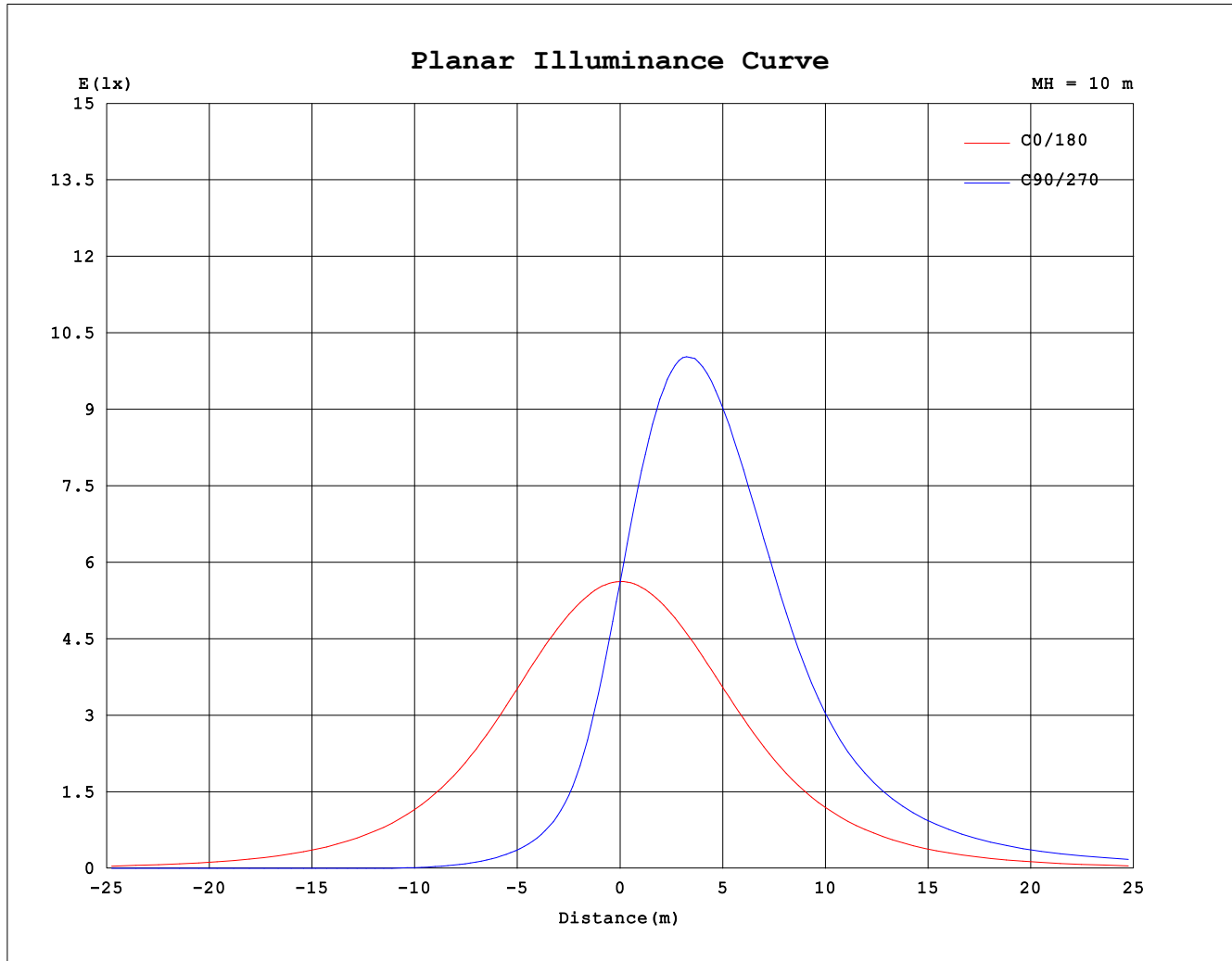
AvgL	cd/m2
L_0~180 (65) av	171772
L_0~180 (75) av	65675
L_0~180 (85) av	3409
L_90~270 (65) av	266908
L_90~270 (75) av	271471
L_90~270 (85) av	139252
L_45 (65) av	227374
L_45 (75) av	179139
L_45 (85) av	123872

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

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:

```

γ Range: 0 - 90DEG
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Remarks:

```