

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: CORELITE

Report Number: P855459

Luminaire Tested: SQ2-FA-050U-100D-840-UNV-STD-W-4

Issue Date: 7/12/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P855459  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2104-222-10, G2-2308-131-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/12/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: SQ2-FA-050U-100D-840-UNV-STD-W-4  
Description: CORELITE SQ2 SUSPENDED LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT  
UPLIGHT 500 LUMENS PER FOOT  
Light Source: -  
Ballast/Driver: -

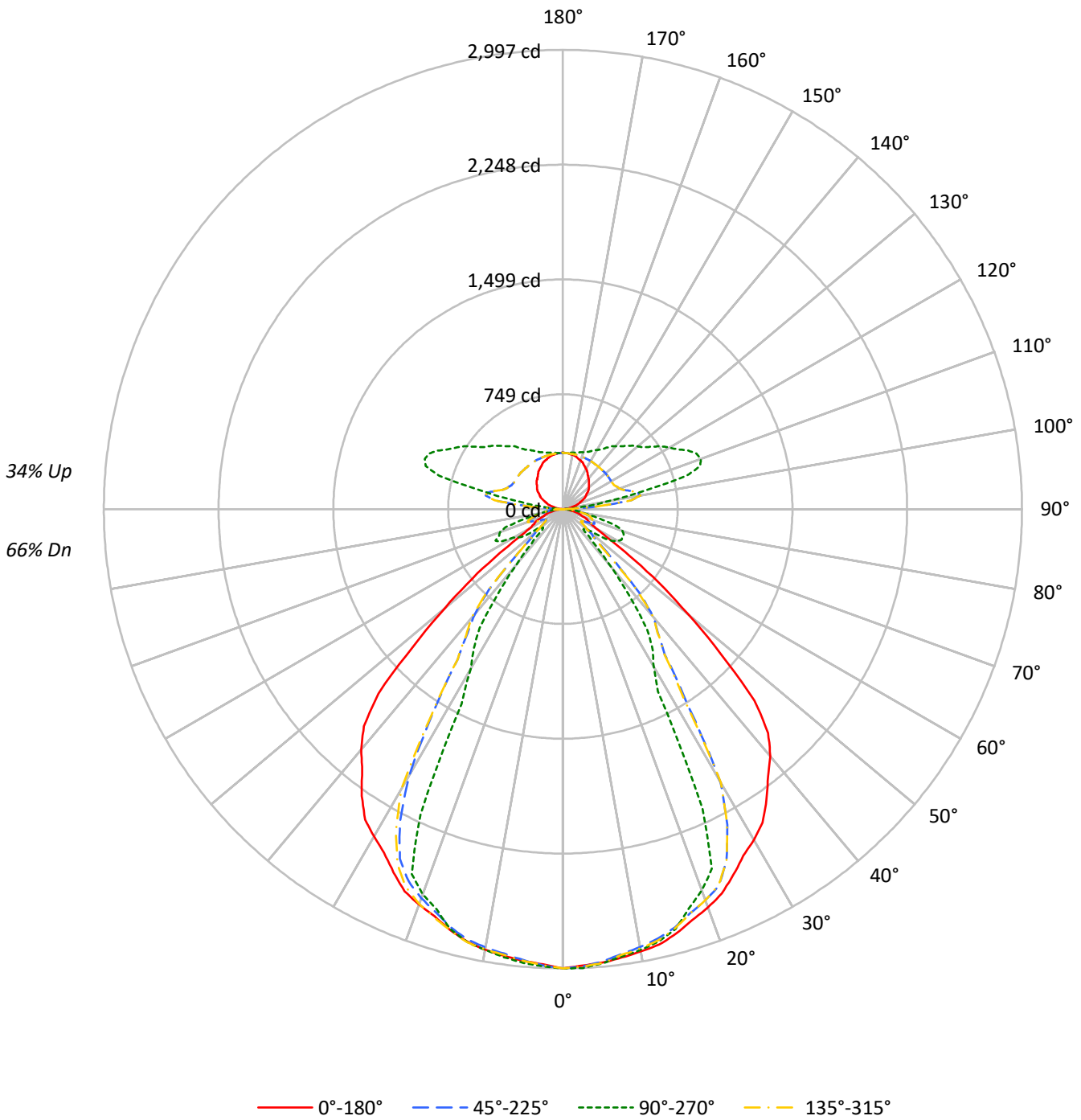
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6658.0 lumens  
Efficiency: N/A  
Efficacy: 127.1 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 0.95 / 0.95  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct  
  
Input Watts (W): 52.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	111	111	111	111	104	104	104	104	92	92	92	81	81	81	71	71	71	66
1	103	99	95	92	97	93	90	87	83	81	79	73	72	70	65	63	62	58
2	95	88	83	78	89	84	79	75	75	71	68	66	64	61	59	57	55	51
3	88	79	73	68	83	75	69	65	68	63	59	61	57	54	54	51	49	46
4	82	72	65	59	77	68	62	57	62	57	53	55	52	48	50	47	44	41
5	76	65	58	52	72	62	56	51	56	51	47	51	47	44	46	43	40	37
6	71	60	52	47	67	57	50	45	52	46	42	47	43	39	43	39	37	34
7	66	55	47	42	63	52	46	41	48	42	39	44	39	36	40	36	34	31
8	62	51	43	38	59	48	42	37	44	39	35	41	36	33	37	34	31	29
9	58	47	40	35	55	45	39	34	41	36	32	38	34	30	35	31	29	27
10	55	44	37	32	52	42	36	31	39	33	30	36	31	28	33	29	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	48394	48394	48394	48394
5°	48138	48212	47955	48175
10°	48065	47880	47880	47880
15°	47910	47418	47532	47418
20°	47538	45519	47189	45945
25°	46912	38414	46591	39221
30°	46480	22040	45977	22335
35°	45667	18934	45086	18668
40°	44403	9959	43161	9862
45°	40361	4284	38915	4284
50°	26631	5167	25267	4828
55°	14891	9543	14125	8653
60°	8031	13430	7886	12042
65°	7079	16321	7427	18567
70°	6618	19525	6293	20592
75°	6201	16781	6344	17349
80°	5253	11985	5253	12617
85°	4594	6688	4187	7966

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 40361 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	282.1	4.2
10°-20°	800.2	12.0
20°-30°	1091.1	16.4
30°-40°	916.9	13.8
40°-50°	520.8	7.8
50°-60°	276.3	4.2
60°-70°	254.4	3.8
70°-80°	186.8	2.8
80°-90°	49.3	0.7
90°-100°	146.2	2.2
100°-110°	463.9	7.0
110°-120°	454.9	6.8
120°-130°	370.1	5.6
130°-140°	301.8	4.5
140°-150°	235.3	3.5
150°-160°	169.5	2.5
160°-170°	103.6	1.6
170°-180°	35.0	0.5
0°-30°	2173.3	32.6
0°-40°	3090.2	46.4
0°-60°	3887.3	58.4
0°-90°	4377.7	65.8
90°-120°	1065.0	16.0
90°-150°	1972.3	29.6
90°-180°	2280.0	34.2
0°-180°	6658.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2997	2997	2997	2997	2997	
5°	2970	2975	2959	2972	2970	282
15°	2866	2837	2844	2837	2866	808
25°	2633	2156	2615	2202	2633	1214
35°	2317	961	2287	947	2317	1446
45°	1768	188	1704	188	1768	1292
55°	529	339	502	307	529	509
65°	185	427	194	486	185	186
75°	99	269	102	278	99	103
85°	25	36	23	43	25	28
90°	0	4	0	4	0	2
95°	20	64	20	64	20	23
105°	81	835	81	835	81	85
115°	144	903	144	903	144	142
125°	200	709	200	709	200	178
135°	241	583	241	583	241	186
145°	282	486	282	486	282	176
155°	321	414	321	414	321	148
165°	350	381	350	381	350	99
175°	366	367	366	367	366	35
180°	367	367	367	367	367	



TEST NUMBER: P855459

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3
2.5°	2981.0	3025.1	2986.5	2981.3	2997.3	2993.7	2988.2	3009.1	2973.8	3009.1	2981.0
5°	2970.1	3021.0	2963.4	2948.1	2974.7	2957.0	2972.4	3003.0	2958.8	2998.6	2954.3
7.5°	2951.6	2996.7	2927.6	2917.8	2943.9	2928.4	2934.8	2977.4	2940.3	2966.4	2926.3
10°	2931.7	2971.4	2902.3	2896.1	2920.4	2904.9	2911.4	2955.8	2920.4	2944.7	2904.5
12.5°	2910.0	2940.9	2871.5	2868.9	2889.6	2879.5	2882.4	2919.8	2891.5	2915.8	2877.5
15°	2866.2	2894.9	2825.5	2814.7	2836.8	2828.0	2832.3	2865.6	2843.6	2859.0	2825.5
17.5°	2811.9	2834.8	2765.7	2733.2	2734.1	2745.2	2765.7	2806.1	2786.1	2806.5	2759.0
20°	2766.7	2793.2	2717.0	2653.6	2649.2	2660.3	2717.0	2757.5	2746.4	2768.4	2701.2
22.5°	2714.2	2731.9	2662.7	2555.7	2540.7	2551.8	2655.5	2703.3	2699.3	2714.3	2630.7
25°	2633.3	2651.1	2524.8	2370.8	2156.3	2357.5	2529.4	2615.3	2615.3	2628.6	2518.1
27.5°	2551.1	2551.5	2323.2	1522.6	1343.1	1467.7	2320.1	2506.3	2527.5	2520.9	2303.8
30°	2493.1	2477.8	2059.1	1230.8	1182.2	1213.1	2061.5	2430.7	2466.1	2441.7	2007.2
32.5°	2426.2	2382.5	1520.4	1131.5	1091.7	1119.1	1470.2	2340.9	2402.8	2350.1	1578.7
35°	2316.9	2201.9	1159.6	1000.5	960.6	996.1	1150.5	2163.7	2287.4	2146.1	1198.0
37.5°	2198.9	1750.2	1020.8	796.9	711.1	779.7	1015.8	1731.4	2151.0	1691.2	1019.8
40°	2106.7	1375.1	917.8	582.9	472.5	549.7	910.9	1311.9	2047.8	1411.4	895.1
42.5°	1983.7	1207.9	736.9	370.2	289.8	338.9	706.6	1180.1	1921.3	1222.9	712.5
45°	1767.6	1038.3	436.2	203.1	187.6	196.5	402.3	1019.1	1704.3	997.1	445.3
47.5°	1400.1	791.9	280.3	172.6	189.4	172.6	271.7	766.7	1322.3	765.3	279.8
50°	1060.2	618.1	217.0	174.7	205.7	174.7	210.2	597.0	1005.9	652.3	214.8
52.5°	785.2	516.5	177.3	191.6	247.3	195.1	172.2	502.8	745.5	526.2	167.7
55°	529.0	405.2	142.4	252.9	339.0	259.5	142.4	393.6	501.8	389.1	137.9
57.5°	335.4	301.4	144.2	325.1	387.0	331.3	146.5	290.5	321.9	291.8	126.6
60°	248.7	237.6	160.5	345.2	415.9	349.6	162.7	228.7	244.2	226.4	135.7
62.5°	205.2	187.2	193.0	373.9	432.1	364.1	197.1	178.4	213.4	171.0	150.1
65°	185.3	121.2	228.3	378.6	427.2	378.6	230.5	114.8	194.4	123.6	203.5
67.5°	167.2	90.0	220.6	376.0	429.9	376.9	215.1	85.8	160.5	83.6	207.9
70°	140.2	80.4	207.9	382.7	413.6	369.4	207.9	78.1	133.3	75.9	244.2
72.5°	116.7	76.5	193.5	353.3	366.6	340.1	195.3	76.0	117.1	68.4	229.7
75°	99.4	75.2	185.3	282.3	269.0	269.0	180.9	73.0	101.7	68.5	178.5
77.5°	74.6	66.7	153.7	184.2	174.0	174.0	151.0	64.3	71.0	60.4	145.1
80°	56.5	61.0	126.6	135.4	128.9	128.9	122.0	58.7	56.5	56.5	119.8
82.5°	43.8	51.9	97.7	99.3	94.5	92.8	95.0	51.4	43.8	47.4	92.6
85°	24.8	35.9	52.0	42.8	36.1	33.9	49.8	33.7	22.6	33.7	49.8
87.5°	9.1	16.3	7.9	7.9	7.9	7.9	7.9	16.3	9.1	14.6	9.8
90°	0.0	1.2	3.5	3.5	3.5	3.5	3.5	1.2	0.0	1.2	3.5
92.5°	6.4	25.6	82.0	27.3	19.1	27.3	82.0	25.6	6.4	25.6	82.0
95°	19.6	59.2	265.6	98.5	63.5	98.5	265.6	59.2	19.6	59.2	265.6
97.5°	36.5	76.7	449.8	281.1	172.5	281.1	449.8	76.7	36.5	76.7	449.8
100°	48.5	86.9	512.7	467.4	303.7	467.4	512.7	86.9	48.5	86.9	512.7
102.5°	61.4	98.0	501.6	686.4	525.4	686.4	501.6	98.0	61.4	98.0	501.6
105°	80.9	113.6	457.3	871.0	834.9	871.0	457.3	113.6	80.9	113.6	457.3
107.5°	100.2	130.5	415.0	890.2	939.1	890.2	415.0	130.5	100.2	130.5	415.0
110°	113.2	142.5	393.8	868.1	958.4	868.1	393.8	142.5	113.2	142.5	393.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	126.1	153.6	381.8	829.9	944.6	829.9	381.8	153.6	126.1	153.6	381.8
115°	144.4	171.4	369.5	767.5	903.1	767.5	369.5	171.4	144.4	171.4	369.5
117.5°	162.1	187.9	364.7	707.5	844.1	707.5	364.7	187.9	162.1	187.9	364.7
120°	173.2	198.0	363.7	670.5	802.6	670.5	363.7	198.0	173.2	198.0	363.7
122.5°	184.2	208.3	363.7	640.7	763.8	640.7	363.7	208.3	184.2	208.3	363.7
125°	199.7	223.5	363.7	601.8	709.0	601.8	363.7	223.5	199.7	223.5	363.7
127.5°	213.4	236.2	363.7	571.6	663.1	571.6	363.7	236.2	213.4	236.2	363.7
130°	221.7	245.4	363.7	553.8	636.3	553.8	363.7	245.4	221.7	245.4	363.7
132.5°	230.1	253.7	362.8	539.8	614.0	539.8	362.8	253.7	230.1	253.7	362.8
135°	241.4	265.0	361.4	517.7	583.2	517.7	361.4	265.0	241.4	265.0	361.4
137.5°	252.4	277.2	361.2	496.5	555.0	496.5	361.2	277.2	252.4	277.2	361.2
140°	259.8	284.7	360.3	481.5	534.7	481.5	360.3	284.7	259.8	284.7	360.3
142.5°	269.1	293.0	361.2	466.7	516.2	466.7	361.2	293.0	269.1	293.0	361.2
145°	281.8	303.2	361.4	446.6	486.2	446.6	361.4	303.2	281.8	303.2	361.4
147.5°	294.5	312.8	361.6	428.9	461.3	428.9	361.6	312.8	294.5	312.8	361.6
150°	303.7	318.4	362.6	418.6	444.6	418.6	362.6	318.4	303.7	318.4	362.6
152.5°	311.0	324.0	362.6	410.2	431.7	410.2	362.6	324.0	311.0	324.0	362.6
155°	321.1	332.4	362.6	398.8	414.5	398.8	362.6	332.4	321.1	332.4	362.6
157.5°	331.7	339.4	363.7	391.7	402.5	391.7	363.7	339.4	331.7	339.4	363.7
160°	337.2	343.9	363.7	387.0	396.1	387.0	363.7	343.9	337.2	343.9	363.7
162.5°	342.7	347.8	363.7	383.3	389.6	383.3	363.7	347.8	342.7	347.8	363.7
165°	349.9	353.2	363.7	377.7	381.1	377.7	363.7	353.2	349.9	353.2	363.7
167.5°	356.6	357.5	364.9	373.7	376.7	373.7	364.9	357.5	356.6	357.5	364.9
170°	360.3	360.3	364.9	371.9	373.0	371.9	364.9	360.3	360.3	360.3	364.9
172.5°	362.1	363.0	364.9	370.0	370.2	370.0	364.9	363.0	362.1	363.0	364.9
175°	366.1	364.9	366.1	368.4	367.2	368.4	366.1	364.9	366.1	364.9	366.1
177.5°	367.2	366.3	366.3	368.2	366.3	368.2	366.3	366.3	367.2	366.3	366.3
180°	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2	367.2



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2997.3	2997.3	2997.3	2997.3	2997.3	2997.3
2.5°	2974.0	2986.5	2986.5	2979.1	3014.5	2981.0
5°	2943.7	2972.4	2959.1	2958.8	3003.2	2970.1
7.5°	2922.4	2949.3	2936.9	2934.4	2978.1	2951.6
10°	2900.5	2920.4	2911.5	2918.2	2958.3	2931.7
12.5°	2869.8	2893.2	2884.5	2894.6	2931.2	2910.0
15°	2816.9	2836.8	2841.1	2845.8	2888.2	2866.2
17.5°	2729.4	2739.2	2761.2	2792.4	2836.7	2811.9
20°	2660.7	2674.0	2687.3	2741.8	2793.2	2766.7
22.5°	2582.6	2578.2	2609.1	2673.1	2737.3	2714.2
25°	2371.8	2201.6	2389.4	2554.2	2640.0	2633.3
27.5°	1651.5	1433.1	1626.2	2357.6	2537.8	2551.1
30°	1299.7	1198.0	1297.4	2104.4	2462.3	2493.1
32.5°	1153.9	1084.1	1144.7	1601.7	2367.0	2426.2
35°	995.7	947.1	995.7	1198.0	2179.9	2316.9
37.5°	797.0	697.5	795.3	1035.2	1762.2	2198.9
40°	593.9	467.9	576.2	926.7	1408.3	2106.7
42.5°	395.7	301.5	374.4	729.7	1218.1	1983.7
45°	214.1	187.6	205.3	440.8	994.1	1767.6
47.5°	167.9	177.6	167.9	278.1	760.4	1400.1
50°	161.2	192.2	161.2	214.8	629.1	1060.2
52.5°	175.7	208.4	173.9	169.6	513.4	785.2
55°	199.2	307.4	201.4	137.9	376.4	529.0
57.5°	283.5	345.9	286.6	130.6	290.0	335.4
60°	291.2	372.9	289.0	137.9	224.3	248.7
62.5°	344.4	461.6	344.0	157.8	166.8	205.2
65°	441.8	486.0	446.2	201.1	119.1	185.3
67.5°	419.3	450.7	414.9	215.6	81.9	167.2
70°	412.0	436.2	407.5	246.4	76.1	140.2
72.5°	384.3	387.4	376.4	228.3	68.4	116.7
75°	297.9	278.1	286.9	196.6	68.5	99.4
77.5°	185.2	177.3	178.5	150.1	60.5	74.6
80°	140.1	135.7	133.4	126.6	56.5	56.5
82.5°	103.8	99.4	97.2	97.7	47.4	43.8
85°	47.3	43.0	40.8	56.5	33.7	24.8
87.5°	9.8	9.8	7.9	9.8	12.8	9.1
90°	3.5	3.5	3.5	3.5	1.2	0.0
92.5°	27.3	19.1	27.3	82.0	25.6	6.4
95°	98.5	63.5	98.5	265.6	59.2	19.6
97.5°	281.1	172.5	281.1	449.8	76.7	36.5
100°	467.4	303.7	467.4	512.7	86.9	48.5
102.5°	686.4	525.4	686.4	501.6	98.0	61.4
105°	871.0	834.9	871.0	457.3	113.6	80.9
107.5°	890.2	939.1	890.2	415.0	130.5	100.2
110°	868.1	958.4	868.1	393.8	142.5	113.2





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	829.9	944.6	829.9	381.8	153.6	126.1
115°	767.5	903.1	767.5	369.5	171.4	144.4
117.5°	707.5	844.1	707.5	364.7	187.9	162.1
120°	670.5	802.6	670.5	363.7	198.0	173.2
122.5°	640.7	763.8	640.7	363.7	208.3	184.2
125°	601.8	709.0	601.8	363.7	223.5	199.7
127.5°	571.6	663.1	571.6	363.7	236.2	213.4
130°	553.8	636.3	553.8	363.7	245.4	221.7
132.5°	539.8	614.0	539.8	362.8	253.7	230.1
135°	517.7	583.2	517.7	361.4	265.0	241.4
137.5°	496.5	555.0	496.5	361.2	277.2	252.4
140°	481.5	534.7	481.5	360.3	284.7	259.8
142.5°	466.7	516.2	466.7	361.2	293.0	269.1
145°	446.6	486.2	446.6	361.4	303.2	281.8
147.5°	428.9	461.3	428.9	361.6	312.8	294.5
150°	418.6	444.6	418.6	362.6	318.4	303.7
152.5°	410.2	431.7	410.2	362.6	324.0	311.0
155°	398.8	414.5	398.8	362.6	332.4	321.1
157.5°	391.7	402.5	391.7	363.7	339.4	331.7
160°	387.0	396.1	387.0	363.7	343.9	337.2
162.5°	383.3	389.6	383.3	363.7	347.8	342.7
165°	377.7	381.1	377.7	363.7	353.2	349.9
167.5°	373.7	376.7	373.7	364.9	357.5	356.6
170°	371.9	373.0	371.9	364.9	360.3	360.3
172.5°	370.0	370.2	370.0	364.9	363.0	362.1
175°	368.4	367.2	368.4	366.1	364.9	366.1
177.5°	368.2	366.3	368.2	366.3	366.3	367.2
180°	367.2	367.2	367.2	367.2	367.2	367.2



TEST NUMBER: P855459

CATALOG NUMBER: SQ2-FA-050U-100D-840-UNV-STD-W-4

**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference 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	14.79	15.67	15.63	16.50	17.54	13.65	14.52	14.48	15.36	16.40
	3H	15.50	16.28	16.34	17.13	18.19	19.80	20.59	20.65	21.43	22.50
	4H	15.91	16.64	16.77	17.50	18.57	21.08	21.82	21.94	22.67	23.75
	6H	16.26	16.94	17.14	17.80	18.89	21.69	22.37	22.56	23.23	24.32
	8H	16.38	17.03	17.26	17.90	18.99	21.82	22.46	22.70	23.34	24.43
	12H	16.45	17.07	17.34	17.94	19.05	21.86	22.47	22.74	23.34	24.45
4H	2H	15.19	15.93	16.06	16.78	17.86	14.19	14.92	15.05	15.78	16.85
	3H	16.19	16.81	17.07	17.69	18.78	20.51	21.13	21.39	22.02	23.10
	4H	16.75	17.31	17.64	18.20	19.31	21.97	22.52	22.85	23.41	24.53
	6H	17.23	17.71	18.13	18.62	19.74	22.70	23.19	23.61	24.09	25.21
	8H	17.40	17.85	18.31	18.75	19.89	22.87	23.32	23.78	24.22	25.35
	12H	17.52	17.92	18.44	18.84	19.98	22.94	23.34	23.86	24.26	25.40
8H	4H	17.86	18.31	18.76	19.21	20.34	22.09	22.54	22.99	23.44	24.57
	6H	18.47	18.83	19.39	19.78	20.91	22.97	23.34	23.90	24.29	25.42
	8H	18.70	19.03	19.64	19.96	21.11	23.22	23.55	24.16	24.48	25.63
	12H	18.87	19.16	19.81	20.09	21.29	23.35	23.63	24.29	24.56	25.76
12H	4H	18.00	18.41	18.92	19.33	20.46	22.05	22.46	22.97	23.38	24.51
	6H	18.74	19.07	19.68	20.00	21.15	22.98	23.31	23.92	24.24	25.39
	8H	19.04	19.33	19.98	20.26	21.46	23.26	23.55	24.20	24.48	25.68