

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: P855048

Luminaire Tested: SQ2-FA-050U-100D-830-UNV-STD-W-4

Issue Date: 7/12/2024

Test Information

Test Method: LM-79-2019
Report Number: P855048
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-830-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

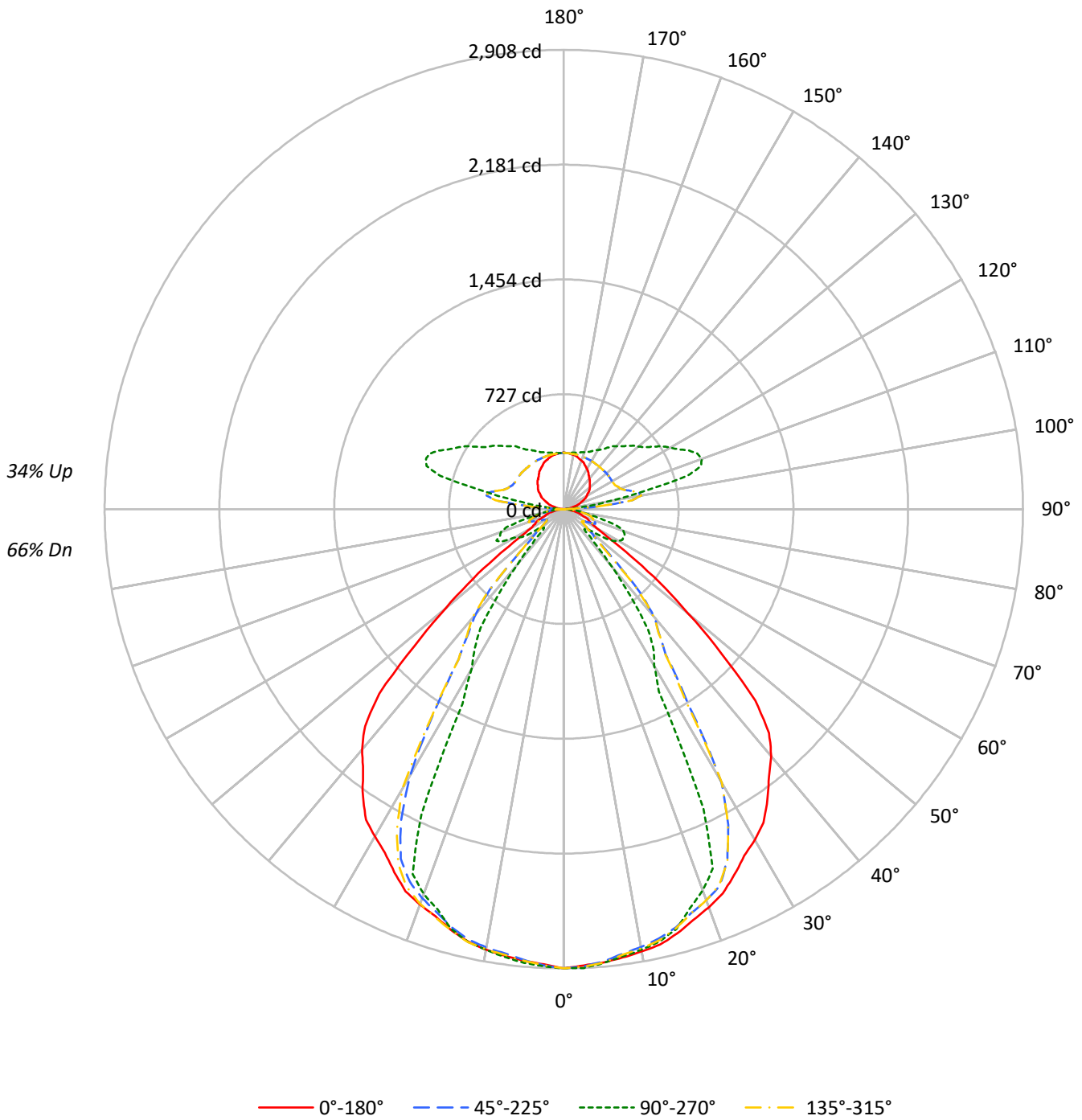
Lumens per Lamp: N/A
Luminaire Lumens: 6459.4 lumens
Efficiency: N/A
Efficacy: 123.3 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 0.95 / 0.95
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

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

TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

Luminous Intensity Polar Plot





TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

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°	46950	46950	46950	46950
5°	46704	46775	46525	46738
10°	46630	46452	46452	46452
15°	46481	46004	46114	46004
20°	46118	44161	45782	44575
25°	45514	37269	45202	38051
30°	45095	21382	44607	21669
35°	44305	18370	43741	18112
40°	43079	9662	41876	9569
45°	39155	4156	37755	4156
50°	25834	5014	24513	4682
55°	14446	9258	13706	8397
60°	7792	13030	7650	11683
65°	6869	15836	7205	18013
70°	6420	18944	6104	19978
75°	6014	16282	6157	16831
80°	5095	11623	5095	12236
85°	4465	6484	4057	7725

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 39155 cd/sqm



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.6	4.2
10°-20°	776.3	12.0
20°-30°	1058.5	16.4
30°-40°	889.5	13.8
40°-50°	505.2	7.8
50°-60°	268.1	4.2
60°-70°	246.8	3.8
70°-80°	181.2	2.8
80°-90°	47.8	0.7
90°-100°	141.9	2.2
100°-110°	450.1	7.0
110°-120°	441.3	6.8
120°-130°	359.1	5.6
130°-140°	292.8	4.5
140°-150°	228.3	3.5
150°-160°	164.5	2.5
160°-170°	100.5	1.6
170°-180°	33.9	0.5
0°-30°	2108.5	32.6
0°-40°	2998.0	46.4
0°-60°	3771.3	58.4
0°-90°	4247.1	65.8
90°-120°	1033.2	16.0
90°-150°	1913.4	29.6
90°-180°	2212.0	34.2
0°-180°	6459.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2908	2908	2908	2908	2908	
5°	2882	2886	2871	2884	2882	274
15°	2781	2752	2759	2752	2781	784
25°	2555	2092	2537	2136	2555	1178
35°	2248	932	2219	919	2248	1403
45°	1715	182	1654	182	1715	1254
55°	513	329	487	298	513	494
65°	180	414	189	472	180	181
75°	96	261	99	270	96	99
85°	24	35	22	42	24	27
90°	0	3	0	3	0	2
95°	19	62	19	62	19	22
105°	78	810	78	810	78	83
115°	140	876	140	876	140	138
125°	194	688	194	688	194	173
135°	234	566	234	566	234	181
145°	273	472	273	472	273	171
155°	312	402	312	402	312	144
165°	339	370	339	370	339	96
175°	355	356	355	356	355	34
180°	356	356	356	356	356	



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9
2.5°	2892.1	2934.9	2897.4	2892.4	2907.9	2904.4	2899.1	2919.3	2885.1	2919.3	2892.1
5°	2881.6	2930.9	2875.0	2860.2	2886.0	2868.8	2883.7	2913.4	2870.6	2909.1	2866.2
7.5°	2863.6	2907.3	2840.3	2830.8	2856.1	2841.1	2847.3	2888.6	2852.6	2877.9	2839.0
10°	2844.2	2882.8	2815.8	2809.8	2833.3	2818.2	2824.6	2867.6	2833.3	2856.9	2817.9
12.5°	2823.2	2853.2	2785.9	2783.3	2803.4	2793.6	2796.4	2832.7	2805.2	2828.9	2791.7
15°	2780.7	2808.5	2741.2	2730.7	2752.2	2743.6	2747.8	2780.1	2758.8	2773.7	2741.2
17.5°	2728.0	2750.3	2683.2	2651.7	2652.6	2663.3	2683.2	2722.4	2703.0	2722.8	2676.7
20°	2684.1	2709.9	2636.0	2574.5	2570.2	2580.9	2636.0	2675.2	2664.5	2685.8	2620.6
22.5°	2633.3	2650.5	2583.3	2479.5	2464.9	2475.7	2576.3	2622.6	2618.8	2633.4	2552.2
25°	2554.8	2572.0	2449.5	2300.1	2092.0	2287.2	2453.9	2537.3	2537.3	2550.2	2443.0
27.5°	2475.0	2475.4	2253.9	1477.2	1303.1	1423.9	2250.9	2431.6	2452.1	2445.7	2235.1
30°	2418.8	2403.9	1997.7	1194.1	1146.9	1176.9	2000.0	2358.2	2392.6	2368.9	1947.3
32.5°	2353.9	2311.5	1475.0	1097.7	1059.2	1085.8	1426.3	2271.1	2331.2	2280.1	1531.6
35°	2247.8	2136.2	1125.0	970.7	932.0	966.4	1116.2	2099.2	2219.2	2082.1	1162.3
37.5°	2133.3	1698.0	990.3	773.1	689.9	756.4	985.5	1679.8	2086.8	1640.8	989.4
40°	2043.9	1334.0	890.4	565.5	458.4	533.3	883.7	1272.8	1986.8	1369.3	868.4
42.5°	1924.6	1171.9	714.9	359.2	281.2	328.8	685.5	1144.9	1864.0	1186.4	691.3
45°	1714.8	1007.3	423.2	197.1	182.0	190.6	390.3	988.7	1653.5	967.4	432.0
47.5°	1358.4	768.3	271.9	167.4	183.7	167.4	263.6	743.9	1282.8	742.5	271.5
50°	1028.5	599.7	210.5	169.5	199.6	169.5	204.0	579.2	975.9	632.8	208.4
52.5°	761.8	501.1	172.0	185.9	239.9	189.3	167.1	487.8	723.3	510.5	162.7
55°	513.2	393.1	138.2	245.3	328.9	251.8	138.2	381.8	486.9	377.5	133.8
57.5°	325.4	292.4	139.9	315.4	375.5	321.4	142.1	281.9	312.3	283.1	122.8
60°	241.3	230.5	155.7	334.9	403.5	339.2	157.8	221.8	236.9	219.7	131.6
62.5°	199.1	181.6	187.2	362.7	419.2	353.2	191.2	173.1	207.0	165.9	145.6
65°	179.8	117.6	221.5	367.3	414.5	367.3	223.6	111.4	188.6	120.0	197.4
67.5°	162.2	87.3	214.0	364.7	417.1	365.6	208.7	83.2	155.7	81.1	201.7
70°	136.0	78.0	201.7	371.3	401.3	358.4	201.7	75.8	129.3	73.6	236.9
72.5°	113.2	74.2	187.7	342.8	355.7	329.9	189.5	73.7	113.6	66.4	222.8
75°	96.4	72.9	179.8	273.8	261.0	261.0	175.5	70.8	98.7	66.5	173.2
77.5°	72.4	64.7	149.1	178.8	168.8	168.8	146.5	62.4	68.9	58.6	140.8
80°	54.8	59.1	122.8	131.4	125.0	125.0	118.4	57.0	54.8	54.8	116.2
82.5°	42.5	50.3	94.7	96.3	91.7	90.0	92.1	49.9	42.5	46.0	89.9
85°	24.1	34.8	50.4	41.5	35.0	32.9	48.3	32.7	21.9	32.7	48.3
87.5°	8.8	15.8	7.7	7.7	7.7	7.7	7.7	15.8	8.8	14.1	9.5
90°	0.0	1.1	3.4	3.4	3.4	3.4	3.4	1.1	0.0	1.1	3.4
92.5°	6.2	24.9	79.6	26.5	18.5	26.5	79.6	24.9	6.2	24.9	79.6
95°	19.0	57.4	257.7	95.5	61.6	95.5	257.7	57.4	19.0	57.4	257.7
97.5°	35.4	74.4	436.4	272.7	167.3	272.7	436.4	74.4	35.4	74.4	436.4
100°	47.0	84.3	497.4	453.5	294.6	453.5	497.4	84.3	47.0	84.3	497.4
102.5°	59.6	95.1	486.6	665.9	509.7	665.9	486.6	95.1	59.6	95.1	486.6
105°	78.5	110.2	443.7	845.0	810.0	845.0	443.7	110.2	78.5	110.2	443.7
107.5°	97.2	126.6	402.6	863.7	911.1	863.7	402.6	126.6	97.2	126.6	402.6
110°	109.8	138.3	382.0	842.2	929.8	842.2	382.0	138.3	109.8	138.3	382.0



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	122.3	149.0	370.4	805.1	916.4	805.1	370.4	149.0	122.3	149.0	370.4
115°	140.1	166.3	358.5	744.6	876.1	744.6	358.5	166.3	140.1	166.3	358.5
117.5°	157.3	182.3	353.8	686.4	818.9	686.4	353.8	182.3	157.3	182.3	353.8
120°	168.0	192.1	352.9	650.5	778.7	650.5	352.9	192.1	168.0	192.1	352.9
122.5°	178.8	202.0	352.9	621.6	741.0	621.6	352.9	202.0	178.8	202.0	352.9
125°	193.8	216.9	352.9	583.9	687.9	583.9	352.9	216.9	193.8	216.9	352.9
127.5°	207.0	229.2	352.9	554.6	643.3	554.6	352.9	229.2	207.0	229.2	352.9
130°	215.0	238.1	352.9	537.3	617.3	537.3	352.9	238.1	215.0	238.1	352.9
132.5°	223.2	246.1	352.0	523.7	595.7	523.7	352.0	246.1	223.2	246.1	352.0
135°	234.2	257.1	350.6	502.2	565.8	502.2	350.6	257.1	234.2	257.1	350.6
137.5°	244.9	269.0	350.4	481.7	538.4	481.7	350.4	269.0	244.9	269.0	350.4
140°	252.0	276.2	349.6	467.2	518.7	467.2	349.6	276.2	252.0	276.2	349.6
142.5°	261.1	284.2	350.4	452.8	500.8	452.8	350.4	284.2	261.1	284.2	350.4
145°	273.4	294.2	350.6	433.3	471.7	433.3	350.6	294.2	273.4	294.2	350.6
147.5°	285.7	303.5	350.8	416.1	447.5	416.1	350.8	303.5	285.7	303.5	350.8
150°	294.6	308.9	351.7	406.1	431.3	406.1	351.7	308.9	294.6	308.9	351.7
152.5°	301.8	314.3	351.7	398.0	418.8	398.0	351.7	314.3	301.8	314.3	351.7
155°	311.5	322.5	351.7	386.9	402.2	386.9	351.7	322.5	311.5	322.5	351.7
157.5°	321.8	329.2	352.9	380.0	390.5	380.0	352.9	329.2	321.8	329.2	352.9
160°	327.1	333.7	352.9	375.5	384.3	375.5	352.9	333.7	327.1	333.7	352.9
162.5°	332.5	337.4	352.9	371.9	378.0	371.9	352.9	337.4	332.5	337.4	352.9
165°	339.4	342.7	352.9	366.4	369.7	366.4	352.9	342.7	339.4	342.7	352.9
167.5°	346.0	346.9	354.0	362.6	365.4	362.6	354.0	346.9	346.0	346.9	354.0
170°	349.6	349.6	354.0	360.8	361.9	360.8	354.0	349.6	349.6	349.6	354.0
172.5°	351.3	352.2	354.0	359.0	359.2	359.0	354.0	352.2	351.3	352.2	354.0
175°	355.1	354.0	355.1	357.4	356.3	357.4	355.1	354.0	355.1	354.0	355.1
177.5°	356.3	355.4	355.4	357.2	355.4	357.2	355.4	355.4	356.3	355.4	355.4
180°	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3	356.3



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2907.9	2907.9	2907.9	2907.9	2907.9	2907.9
2.5°	2885.3	2897.4	2897.4	2890.3	2924.6	2892.1
5°	2855.9	2883.7	2870.8	2870.6	2913.7	2881.6
7.5°	2835.2	2861.3	2849.3	2846.8	2889.2	2863.6
10°	2813.9	2833.3	2824.7	2831.1	2870.0	2844.2
12.5°	2784.2	2806.9	2798.5	2808.3	2843.8	2823.2
15°	2732.9	2752.2	2756.4	2760.9	2802.1	2780.7
17.5°	2648.0	2657.5	2678.8	2709.1	2752.1	2728.0
20°	2581.4	2594.3	2607.1	2660.1	2709.9	2684.1
22.5°	2505.6	2501.3	2531.3	2593.4	2655.7	2633.3
25°	2301.1	2135.9	2318.2	2478.0	2561.2	2554.8
27.5°	1602.2	1390.4	1577.7	2287.3	2462.1	2475.0
30°	1260.9	1162.3	1258.7	2041.6	2388.8	2418.8
32.5°	1119.4	1051.7	1110.5	1554.0	2296.4	2353.9
35°	966.0	918.9	966.0	1162.3	2114.9	2247.8
37.5°	773.2	676.7	771.6	1004.4	1709.6	2133.3
40°	576.2	454.0	559.0	899.1	1366.3	2043.9
42.5°	383.9	292.5	363.3	707.9	1181.7	1924.6
45°	207.7	182.0	199.2	427.6	964.4	1714.8
47.5°	162.9	172.3	162.9	269.8	737.7	1358.4
50°	156.4	186.4	156.4	208.4	610.3	1028.5
52.5°	170.5	202.2	168.7	164.5	498.0	761.8
55°	193.2	298.3	195.4	133.8	365.2	513.2
57.5°	275.1	335.6	278.0	126.7	281.3	325.4
60°	282.5	361.8	280.4	133.8	217.6	241.3
62.5°	334.1	447.8	333.8	153.1	161.8	199.1
65°	428.6	471.5	432.9	195.1	115.6	179.8
67.5°	406.8	437.2	402.5	209.2	79.5	162.2
70°	399.7	423.2	395.4	239.0	73.8	136.0
72.5°	372.9	375.8	365.2	221.5	66.4	113.2
75°	289.0	269.8	278.4	190.7	66.5	96.4
77.5°	179.7	172.0	173.2	145.6	58.7	72.4
80°	135.9	131.6	129.5	122.8	54.8	54.8
82.5°	100.7	96.4	94.3	94.7	46.0	42.5
85°	45.9	41.7	39.6	54.8	32.7	24.1
87.5°	9.5	9.5	7.7	9.5	12.4	8.8
90°	3.4	3.4	3.4	3.4	1.1	0.0
92.5°	26.5	18.5	26.5	79.6	24.9	6.2
95°	95.5	61.6	95.5	257.7	57.4	19.0
97.5°	272.7	167.3	272.7	436.4	74.4	35.4
100°	453.5	294.6	453.5	497.4	84.3	47.0
102.5°	665.9	509.7	665.9	486.6	95.1	59.6
105°	845.0	810.0	845.0	443.7	110.2	78.5
107.5°	863.7	911.1	863.7	402.6	126.6	97.2
110°	842.2	929.8	842.2	382.0	138.3	109.8



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-UNV-STD-W-4

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	805.1	916.4	805.1	370.4	149.0	122.3
115°	744.6	876.1	744.6	358.5	166.3	140.1
117.5°	686.4	818.9	686.4	353.8	182.3	157.3
120°	650.5	778.7	650.5	352.9	192.1	168.0
122.5°	621.6	741.0	621.6	352.9	202.0	178.8
125°	583.9	687.9	583.9	352.9	216.9	193.8
127.5°	554.6	643.3	554.6	352.9	229.2	207.0
130°	537.3	617.3	537.3	352.9	238.1	215.0
132.5°	523.7	595.7	523.7	352.0	246.1	223.2
135°	502.2	565.8	502.2	350.6	257.1	234.2
137.5°	481.7	538.4	481.7	350.4	269.0	244.9
140°	467.2	518.7	467.2	349.6	276.2	252.0
142.5°	452.8	500.8	452.8	350.4	284.2	261.1
145°	433.3	471.7	433.3	350.6	294.2	273.4
147.5°	416.1	447.5	416.1	350.8	303.5	285.7
150°	406.1	431.3	406.1	351.7	308.9	294.6
152.5°	398.0	418.8	398.0	351.7	314.3	301.8
155°	386.9	402.2	386.9	351.7	322.5	311.5
157.5°	380.0	390.5	380.0	352.9	329.2	321.8
160°	375.5	384.3	375.5	352.9	333.7	327.1
162.5°	371.9	378.0	371.9	352.9	337.4	332.5
165°	366.4	369.7	366.4	352.9	342.7	339.4
167.5°	362.6	365.4	362.6	354.0	346.9	346.0
170°	360.8	361.9	360.8	354.0	349.6	349.6
172.5°	359.0	359.2	359.0	354.0	352.2	351.3
175°	357.4	356.3	357.4	355.1	354.0	355.1
177.5°	357.2	355.4	357.2	355.4	355.4	356.3
180°	356.3	356.3	356.3	356.3	356.3	356.3



TEST NUMBER: P855048

CATALOG NUMBER: SQ2-FA-050U-100D-830-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	14.69	15.56	15.52	16.40	17.44	13.54	14.42	14.38	15.26	16.29
	3H	15.39	16.17	16.24	17.02	18.09	19.70	20.48	20.55	21.33	22.39
	4H	15.80	16.54	16.66	17.39	18.47	20.98	21.71	21.84	22.57	23.64
	6H	16.16	16.84	17.03	17.70	18.79	21.58	22.26	22.46	23.13	24.21
	8H	16.28	16.92	17.16	17.80	18.89	21.71	22.35	22.59	23.23	24.32
	12H	16.35	16.96	17.23	17.83	18.94	21.75	22.37	22.64	23.24	24.35
4H	2H	15.09	15.82	15.95	16.68	17.75	14.08	14.82	14.95	15.67	16.75
	3H	16.09	16.70	16.96	17.59	18.68	20.41	21.02	21.28	21.91	23.00
	4H	16.65	17.21	17.53	18.09	19.21	21.86	22.42	22.75	23.30	24.42
	6H	17.13	17.61	18.03	18.51	19.64	22.60	23.08	23.50	23.99	25.11
	8H	17.30	17.75	18.20	18.65	19.78	22.77	23.22	23.67	24.12	25.25
	12H	17.41	17.82	18.33	18.74	19.87	22.83	23.23	23.75	24.15	25.29
8H	4H	17.75	18.20	18.65	19.10	20.23	21.99	22.44	22.89	23.34	24.47
	6H	18.36	18.73	19.29	19.67	20.80	22.87	23.24	23.80	24.18	25.31
	8H	18.59	18.92	19.53	19.86	21.01	23.12	23.44	24.06	24.38	25.53
	12H	18.77	19.05	19.71	19.98	21.18	23.24	23.53	24.18	24.45	25.65
12H	4H	17.90	18.30	18.82	19.22	20.36	21.95	22.35	22.87	23.27	24.41
	6H	18.63	18.96	19.57	19.90	21.05	22.88	23.20	23.82	24.14	25.29
	8H	18.94	19.22	19.88	20.15	21.35	23.16	23.44	24.10	24.37	25.57