

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P938454

Luminaire Tested: SQ4-FB-150U-100D-93050-1D-UNV-STD-W-12-3500K

Issue Date: 12/17/2024

**Test Information**

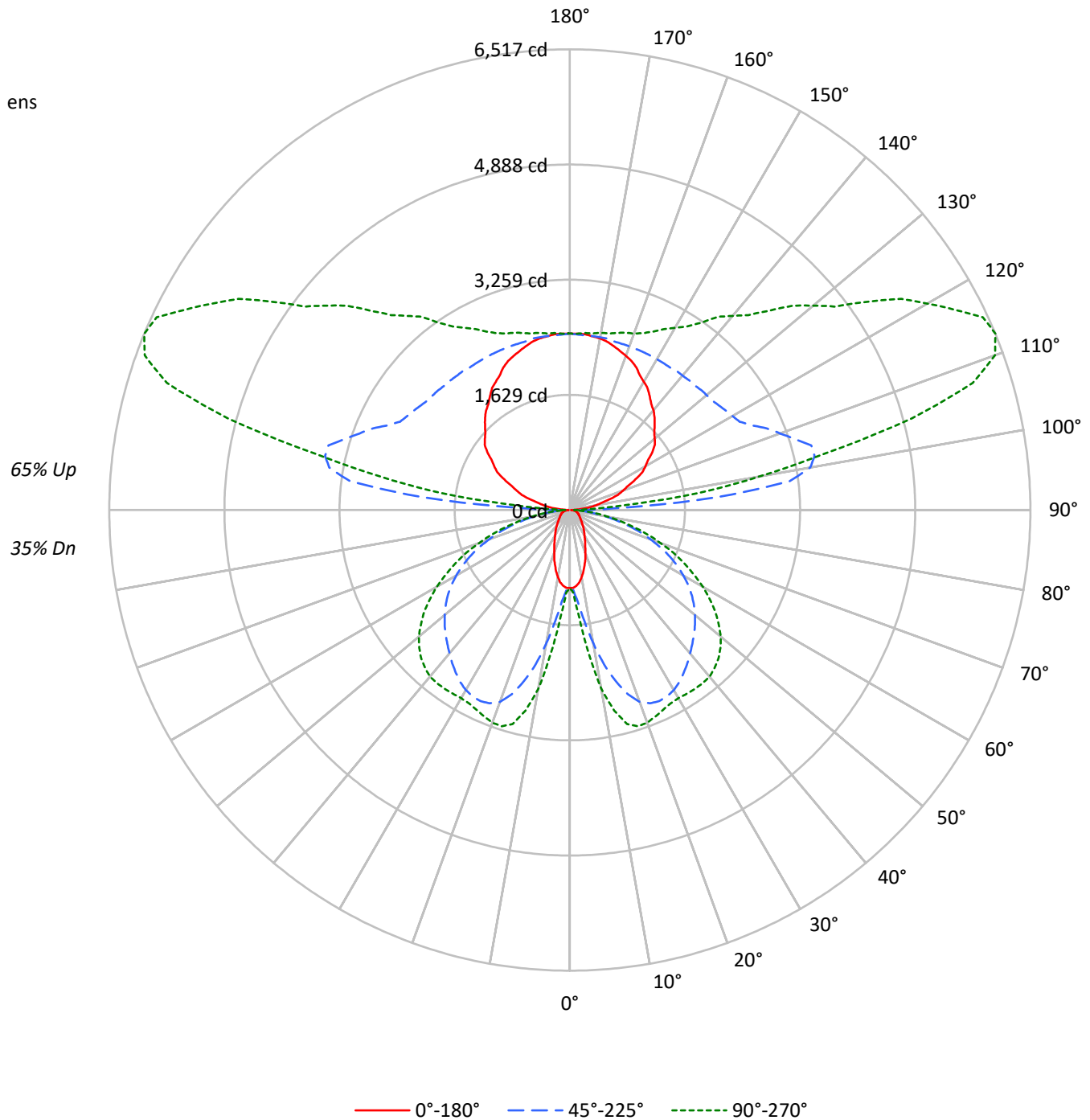
Test Method: LM-79-2019  
Report Number: P938454  
REPORT IS A COMBINATION OF REPORTS P933623 AND P933786  
Test Lab: INNOVATION CENTER  
Issue Date: 12/17/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: SQ4-FB-150U-100D-93050-1D-UNV-STD-W-12-3500K  
Description: CORELITE SQ4 SUSPENDED INDIRECT LED LUMINAIRE WITH Batwing Frosted Continuous Roll L  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24728.5 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 0.71 / 2.69 / 2.33  
Luminous Opening: Rectangular w/ Sides (W: 0.29' x L: 12' x H: 0.1')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 217.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P938454  
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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	50	30	10	0
RCR																					
0	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35			35
1	94	90	86	82	85	81	78	75	65	63	60	50	49	47	36	35	35	28			28
2	85	78	72	66	77	70	65	61	56	53	49	43	41	39	32	30	29	23			23
3	77	68	61	55	69	61	55	50	49	45	41	38	35	32	28	26	24	19			19
4	71	60	52	46	63	54	47	42	43	38	34	34	30	27	24	22	20	16			16
5	64	53	45	39	58	48	41	36	39	33	29	30	26	23	22	19	17	14			14
6	59	47	39	33	53	43	36	30	34	29	25	27	23	20	19	17	15	12			12
7	54	42	34	29	49	38	31	26	31	26	22	24	20	17	18	15	13	10			10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9			9
9	47	35	27	22	42	31	25	20	26	20	17	20	16	14	15	12	10	8			8
10	43	31	24	20	39	29	22	18	23	18	15	18	15	12	13	11	9	7			7

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

	0°	45°	90°
0°	3414	3414	3414
5°	3336	3946	4588
10°	3027	5754	7607
15°	2574	7520	9185
20°	2096	8716	9361
25°	1749	9123	9171
30°	1476	9183	9154
35°	1305	9033	9390
40°	1138	8837	9635
45°	1032	8694	9673
50°	947	8567	9513
55°	908	8379	9091
60°	931	8015	8425
65°	969	7459	7510
70°	1035	6510	6344
75°	1152	5312	4951
80°	1267	3689	3336
85°	1150	1960	1708

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 9673 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.8	0.6
10°-20°	632.7	2.6
20°-30°	1106.7	4.5
30°-40°	1424.7	5.8
40°-50°	1591.3	6.4
50°-60°	1524.1	6.2
60°-70°	1207.9	4.9
70°-80°	710.3	2.9
80°-90°	206.8	0.8
90°-100°	1216.7	4.9
100°-110°	3198.8	12.9
110°-120°	3316.9	13.4
120°-130°	2660.5	10.8
130°-140°	2087.6	8.4
140°-150°	1602.3	6.5
150°-160°	1153.9	4.7
160°-170°	706.0	2.9
170°-180°	238.5	1.0
0°-30°	1882.2	7.6
0°-40°	3306.9	13.4
0°-60°	6422.3	26.0
0°-90°	8547.2	34.6
90°-120°	7732.4	31.3
90°-150°	14082.8	56.9
90°-180°	16181.0	65.4
0°-180°	24728.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1104	1104	1104	1104	1104	
5°	1075	1153	1299	1469	1522	99
15°	806	1487	2505	3038	3134	224
25°	514	1686	2984	3116	3119	237
35°	348	1611	2811	2970	3087	217
45°	238	1285	2484	2846	2974	184
55°	170	816	2108	2449	2516	155
65°	135	433	1565	1760	1785	134
75°	99	266	859	944	948	104
85°	36	82	213	234	238	38
90°	17	47	127	64	64	16
95°	161	630	2096	1081	735	179
105°	576	873	3536	5369	5009	611
115°	1024	1243	2833	5651	6450	1011
125°	1424	1596	2576	4354	5136	1264
135°	1697	1868	2496	3515	3985	1313
145°	1968	2094	2464	2999	3233	1233
155°	2225	2287	2464	2706	2784	1022
165°	2401	2432	2464	2561	2593	677
175°	2496	2496	2481	2513	2513	237
180°	2496	2496	2496	2496	2496	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7	1103.7
2.5°	1103.7	1103.7	1110.7	1114.3	1121.4	1125.0	1132.0	1139.1	1160.4	1164.0	1171.1
5°	1075.3	1089.4	1135.6	1153.3	1203.0	1270.4	1298.8	1344.9	1440.7	1469.1	1486.8
7.5°	1032.7	1064.6	1178.1	1206.5	1330.7	1508.2	1582.7	1682.0	1834.7	1909.2	1969.5
10°	965.2	1032.7	1234.9	1302.3	1504.7	1774.3	1912.7	2051.2	2281.8	2384.7	2423.7
12.5°	890.7	1000.7	1295.2	1387.6	1678.5	2072.4	2239.2	2391.8	2654.4	2792.8	2814.1
15°	805.5	954.6	1352.0	1486.8	1863.1	2320.8	2505.4	2693.5	2938.3	3037.6	3062.5
17.5°	731.0	919.1	1405.3	1547.2	2005.0	2544.4	2732.5	2888.6	3087.3	3154.7	3172.5
20°	638.7	862.4	1440.7	1625.3	2154.0	2707.6	2888.6	3009.2	3144.1	3186.7	3193.8
22.5°	571.3	802.0	1462.0	1653.6	2253.4	2807.0	2959.5	3055.4	3147.6	3161.9	3165.4
25°	514.5	734.6	1458.5	1685.6	2338.6	2867.3	2984.4	3055.4	3108.6	3115.7	3115.7
27.5°	461.4	660.0	1444.3	1692.7	2402.5	2881.5	2973.8	3023.5	3048.3	3062.5	3062.5
30°	415.2	589.1	1408.8	1678.5	2430.9	2867.3	2941.8	2966.7	2991.5	3012.8	3023.5
32.5°	379.7	521.6	1355.6	1650.1	2434.4	2831.9	2885.1	2899.3	2934.7	2984.4	3002.2
35°	347.7	454.2	1295.2	1611.1	2413.0	2775.0	2810.6	2824.7	2895.7	2970.2	2995.1
37.5°	315.9	404.6	1217.2	1543.7	2381.2	2707.6	2732.5	2757.3	2867.3	2956.1	2984.4
40°	283.9	362.0	1125.0	1469.1	2331.5	2626.0	2647.3	2686.3	2831.9	2934.7	2963.1
42.5°	259.0	326.5	1025.6	1391.0	2267.6	2533.7	2565.7	2622.5	2789.3	2899.3	2931.2
45°	237.8	291.0	919.1	1284.6	2186.0	2437.9	2484.0	2562.1	2739.6	2846.0	2874.4
47.5°	216.5	266.2	809.1	1174.6	2097.3	2342.1	2402.5	2491.1	2672.1	2775.0	2799.9
50°	198.8	241.3	699.1	1057.5	2001.5	2239.2	2310.2	2402.5	2587.0	2682.8	2714.8
52.5°	184.5	220.0	596.2	940.4	1891.4	2132.7	2214.4	2310.2	2484.0	2576.3	2597.7
55°	170.4	202.3	507.5	816.2	1777.9	2019.2	2107.9	2200.1	2370.5	2448.6	2462.7
57.5°	163.2	188.1	433.0	699.1	1657.2	1891.4	1990.8	2076.0	2235.7	2295.9	2310.2
60°	152.6	177.5	376.1	599.7	1525.9	1770.7	1856.0	1941.1	2076.0	2125.6	2136.3
62.5°	141.9	170.4	333.6	503.9	1391.0	1628.8	1714.0	1792.1	1905.7	1941.1	1955.3
65°	134.8	163.2	301.6	433.0	1252.7	1479.8	1564.9	1632.4	1724.6	1760.1	1767.3
67.5°	127.8	156.1	276.8	372.6	1114.3	1330.7	1394.6	1458.5	1529.5	1564.9	1568.5
70°	117.1	149.1	255.5	330.0	972.3	1160.4	1213.7	1281.1	1337.9	1355.6	1366.2
72.5°	110.0	138.4	241.3	298.0	826.8	997.2	1046.9	1085.9	1135.6	1153.3	1153.3
75°	99.4	124.2	227.1	266.2	677.8	816.2	858.8	897.8	936.9	943.9	933.3
77.5°	88.7	110.0	195.2	223.6	528.8	645.9	681.3	702.6	734.6	741.7	745.3
80°	74.5	95.8	152.6	173.9	383.3	475.5	500.4	518.1	546.5	546.5	553.6
82.5°	56.8	74.5	110.0	124.2	259.0	326.5	347.7	358.4	376.1	376.1	376.1
85°	35.5	46.1	71.0	81.7	156.1	198.8	212.9	216.5	230.6	234.2	234.2
87.5°	17.7	24.8	46.1	49.7	81.7	102.9	102.9	110.0	110.0	106.5	102.9
90°	16.7	30.2	43.6	46.9	73.7	109.4	127.3	113.2	84.9	63.7	63.7
92.5°	67.0	180.9	294.8	323.3	454.5	629.5	717.0	628.3	451.1	318.3	305.7
95°	160.8	369.2	577.7	629.9	1118.5	1770.0	2095.7	1870.1	1419.0	1080.6	1042.2
97.5°	278.1	462.0	645.9	691.9	1506.6	2592.9	3136.0	2993.5	2708.3	2494.4	2421.5
100°	368.5	535.3	702.1	743.8	1647.9	2853.3	3456.0	3466.4	3487.2	3502.9	3416.0
102.5°	445.6	601.2	756.8	795.8	1712.6	2935.2	3546.5	3728.2	4091.5	4364.0	4289.5
105°	576.3	708.1	839.9	872.8	1760.7	2944.5	3536.4	3943.7	4758.2	5369.1	5329.1
107.5°	710.3	833.2	956.0	986.7	1769.6	2813.4	3335.4	3903.5	5039.6	5891.8	5901.4
110°	800.8	911.7	1022.6	1050.4	1756.2	2697.3	3167.9	3803.0	5073.2	6025.8	6067.5



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
112.5°	889.6	995.3	1101.1	1127.5	1756.8	2595.9	3015.4	3665.4	4965.4	5940.4	6004.4
115°	1023.6	1121.1	1218.7	1243.1	1773.0	2479.6	2832.9	3459.0	4711.3	5650.6	5739.4
117.5°	1155.9	1244.5	1333.1	1355.2	1805.8	2406.7	2707.2	3272.3	4402.5	5250.2	5348.7
120°	1232.9	1316.4	1399.7	1420.6	1832.7	2382.2	2656.9	3173.3	4205.9	4980.4	5076.2
122.5°	1308.3	1392.5	1476.6	1497.7	1871.3	2369.4	2618.4	3083.4	4013.3	4710.8	4805.1
125°	1424.0	1500.6	1577.4	1596.5	1923.2	2358.8	2576.5	2971.5	3761.5	4353.9	4440.8
127.5°	1517.7	1595.2	1672.6	1692.0	1975.1	2352.6	2541.3	2880.5	3558.8	4067.5	4140.8
130°	1568.0	1651.4	1734.8	1755.6	2013.0	2356.3	2527.9	2829.8	3433.7	3886.5	3954.3
132.5°	1620.0	1703.3	1786.7	1807.5	2043.7	2358.7	2516.2	2786.5	3327.1	3732.5	3793.2
135°	1697.0	1772.9	1848.9	1867.9	2077.3	2356.6	2496.1	2722.5	3175.1	3514.6	3566.9
137.5°	1775.8	1851.0	1926.2	1945.0	2127.5	2371.0	2492.7	2684.1	3066.8	3353.8	3396.6
140°	1841.1	1910.3	1979.6	1996.9	2158.2	2373.4	2481.0	2646.3	2976.9	3224.8	3264.8
142.5°	1891.3	1955.4	2019.4	2035.4	2183.9	2382.0	2481.0	2626.2	2916.6	3134.4	3168.9
145°	1968.4	2024.3	2080.1	2094.0	2217.4	2382.0	2464.3	2583.0	2820.5	2998.7	3024.7
147.5°	2045.4	2099.8	2154.1	2167.7	2266.6	2398.4	2464.3	2557.7	2744.6	2884.8	2906.4
150°	2095.7	2144.9	2194.1	2206.3	2292.3	2407.0	2464.3	2543.2	2701.1	2819.4	2836.9
152.5°	2147.7	2184.9	2222.1	2231.4	2309.0	2412.5	2464.3	2531.7	2666.4	2767.5	2780.7
155°	2224.8	2252.3	2279.8	2286.7	2345.9	2424.8	2464.3	2517.9	2625.1	2705.5	2714.3
157.5°	2281.7	2308.5	2335.2	2342.0	2382.7	2437.0	2464.3	2506.0	2589.3	2651.9	2658.1
160°	2320.2	2341.1	2361.9	2367.1	2399.5	2442.7	2464.3	2500.0	2571.4	2625.1	2628.6
162.5°	2358.7	2374.4	2389.9	2393.9	2417.3	2448.6	2464.3	2494.4	2554.8	2600.0	2603.3
165°	2400.6	2414.7	2428.9	2432.5	2443.0	2457.2	2464.3	2485.8	2529.0	2561.4	2565.0
167.5°	2439.2	2445.9	2452.5	2454.2	2463.2	2475.1	2481.0	2495.1	2523.4	2544.7	2546.2
170°	2464.3	2471.0	2477.7	2479.4	2479.9	2480.6	2481.0	2495.1	2523.4	2544.7	2544.7
172.5°	2477.7	2479.1	2480.6	2481.0	2481.0	2481.0	2481.0	2492.2	2514.6	2531.3	2530.0
175°	2496.1	2496.1	2496.1	2496.1	2491.1	2484.4	2481.0	2488.1	2502.2	2512.9	2512.9
177.5°	2496.1	2496.1	2496.1	2496.1	2492.2	2487.0	2484.4	2490.0	2501.1	2509.5	2507.9
180°	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1	2496.1



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**CANDELA DISTRIBUTION (continued):**

	80°	90°
0°	1103.7	1103.7
2.5°	1178.1	1171.1
5°	1515.3	1522.4
7.5°	2040.5	2036.9
10°	2537.3	2569.2
12.5°	2899.3	2906.4
15°	3119.3	3133.5
17.5°	3204.4	3208.0
20°	3208.0	3200.9
22.5°	3169.0	3161.9
25°	3122.8	3119.3
27.5°	3080.2	3083.8
30°	3062.5	3073.2
32.5°	3062.5	3080.2
35°	3069.6	3087.3
37.5°	3066.0	3087.3
40°	3051.9	3076.7
42.5°	3012.8	3030.5
45°	2952.5	2973.8
47.5°	2874.4	2888.6
50°	2775.0	2789.3
52.5°	2650.8	2654.4
55°	2501.8	2516.0
57.5°	2342.1	2345.6
60°	2164.7	2175.3
62.5°	1976.6	1976.6
65°	1777.9	1785.0
67.5°	1572.1	1589.8
70°	1362.7	1366.2
72.5°	1156.8	1156.8
75°	943.9	947.5
77.5°	741.7	741.7
80°	550.1	553.6
82.5°	379.7	386.8
85°	237.8	237.8
87.5°	110.0	99.4
90°	63.7	63.7
92.5°	255.0	204.4
95°	888.8	735.4
97.5°	2129.6	1837.7
100°	3068.3	2720.6
102.5°	3991.7	3693.9
105°	5169.1	5009.0
107.5°	5940.2	5978.9
110°	6234.3	6401.1





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**CANDELA DISTRIBUTION (continued):**

	80°	90°
112.5°	6260.6	6516.7
115°	6094.5	6449.6
117.5°	5742.5	6136.4
120°	5458.8	5841.6
122.5°	5182.7	5560.2
125°	4788.6	5136.3
127.5°	4434.2	4727.5
130°	4225.3	4496.3
132.5°	4035.8	4278.5
135°	3776.2	3985.4
137.5°	3567.9	3739.1
140°	3424.9	3585.0
142.5°	3306.6	3444.3
145°	3129.0	3233.2
147.5°	2992.8	3079.1
150°	2906.9	2976.9
152.5°	2833.6	2886.4
155°	2749.2	2784.2
157.5°	2682.6	2707.2
160°	2642.8	2656.9
162.5°	2616.7	2630.2
165°	2579.1	2593.3
167.5°	2552.1	2558.1
170°	2544.7	2544.7
172.5°	2524.8	2519.6
175°	2512.9	2512.9
177.5°	2502.0	2496.1
180°	2496.1	2496.1



TEST NUMBER: P938454  
 CATALOG NUMBER: SQ4-FB-150U-100D-93050-1D-UNV-STD-W-12-3500K

**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	3.67	4.43	4.74	5.51	6.98	16.86	17.62	17.93	18.70	20.17
	3H	4.37	5.05	5.45	6.14	7.63	18.70	19.38	19.78	20.47	21.96
	4H	4.66	5.31	5.75	6.40	7.89	19.34	19.99	20.43	21.08	22.58
	6H	4.90	5.50	6.01	6.59	8.10	19.77	20.37	20.87	21.46	22.97
	8H	4.97	5.54	6.08	6.65	8.15	19.89	20.46	21.00	21.57	23.07
	12H	4.98	5.52	6.09	6.63	8.15	19.96	20.50	21.07	21.60	23.13
4H	2H	10.88	11.53	11.98	12.62	14.11	17.12	17.77	18.22	18.86	20.36
	3H	12.44	12.98	13.54	14.09	15.60	19.16	19.71	20.27	20.82	22.33
	4H	12.53	13.03	13.64	14.13	15.66	19.93	20.43	21.04	21.53	23.06
	6H	12.53	12.96	13.65	14.09	15.61	20.47	20.90	21.59	22.02	23.55
	8H	12.51	12.91	13.62	14.03	15.57	20.63	21.03	21.75	22.15	23.69
	12H	12.46	12.82	13.59	13.95	15.50	20.72	21.08	21.86	22.22	23.76
8H	4H	13.97	14.37	15.09	15.49	17.03	19.98	20.38	21.10	21.50	23.04
	6H	14.20	14.54	15.34	15.70	17.23	20.61	20.94	21.75	22.10	23.64
	8H	14.22	14.51	15.37	15.65	17.21	20.83	21.12	21.98	22.26	23.82
	12H	14.18	14.44	15.34	15.58	17.17	20.97	21.23	22.12	22.37	23.96
12H	4H	14.11	14.47	15.24	15.60	17.15	19.93	20.29	21.06	21.42	22.97
	6H	14.46	14.75	15.61	15.89	17.45	20.59	20.88	21.74	22.02	23.58
	8H	14.53	14.78	15.68	15.92	17.51	20.82	21.07	21.97	22.21	23.80