

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: P855431

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

Issue Date: 7/12/2024

**Test Information**

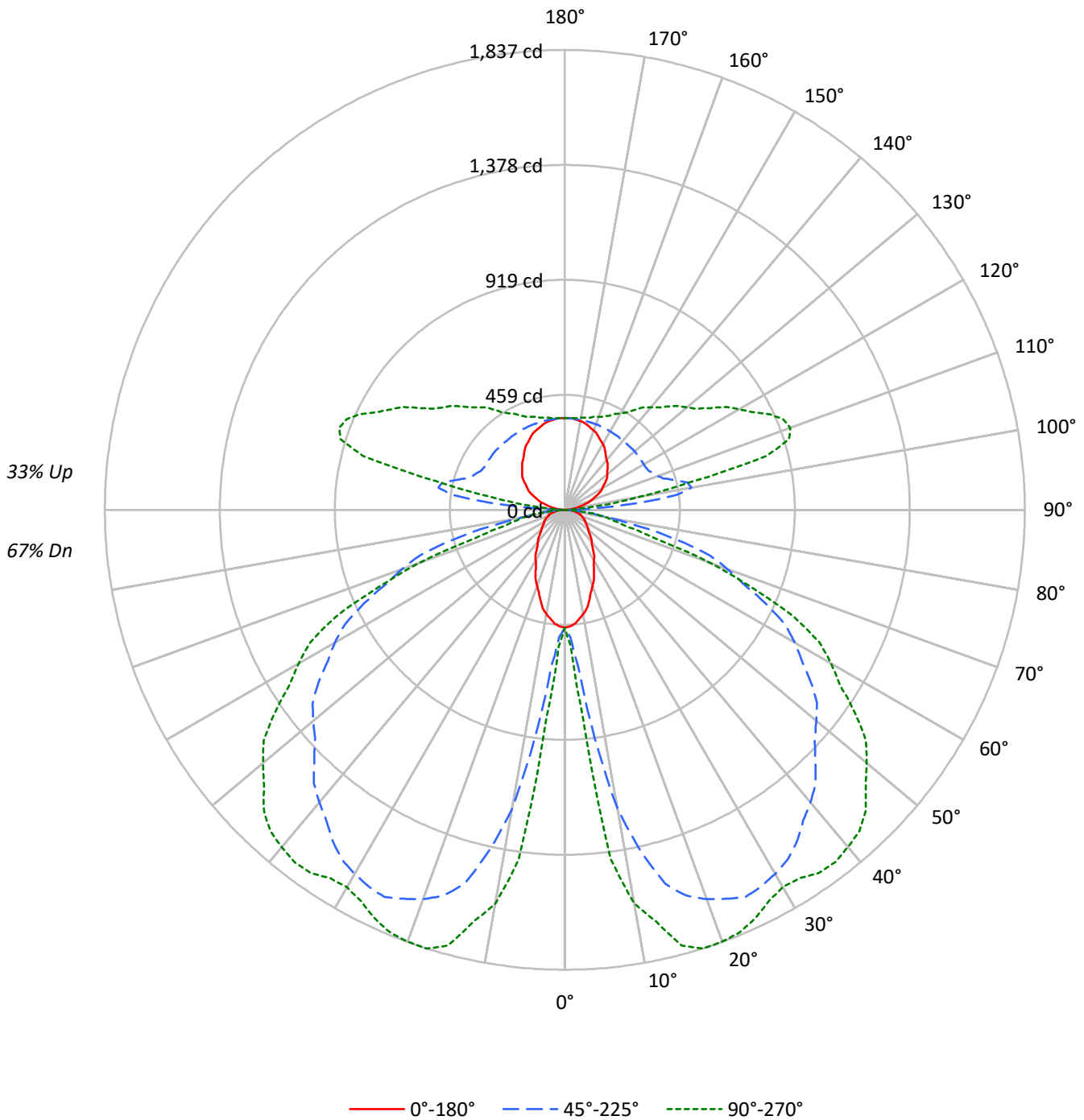
Test Method: LM-79-2019  
Report Number: P855431  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2104-222-10, G2-2308-131-12)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/12/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: CORELITE  
Catalog Number: SQ2-FB-050U-100D-840-UNV-STD-W-4  
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: 6926.6 lumens  
Efficiency: N/A  
Efficacy: 132.2 lumens/watt  
Spacing Criteria (0/90/45): 0.84 / 2.98 / 2.56  
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	50	30	10	50	30	10	50	30	10	0																			
RCR	0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67	67	67	67	67	67	67	67	67																			
	1	101	97	93	89	95	91	88	85	81	78	76	72	70	68	63	62	60	56	56	56	56	56	56	56	56	56																			
	2	92	84	77	72	86	79	74	69	71	66	62	62	59	56	55	52	50	46	46	46	46	46	46	46	46	46																			
	3	83	73	65	59	78	69	62	57	62	56	51	55	50	47	48	45	42	38	38	38	38	38	38	38	38	38																			
	4	76	64	56	50	71	61	53	47	54	48	43	48	43	39	42	39	35	32	32	32	32	32	32	32	32	32																			
	5	70	57	48	42	65	54	46	40	48	42	37	43	38	34	38	34	30	27	27	27	27	27	27	27	27	27																			
	6	64	51	42	36	60	48	40	35	43	37	32	38	33	29	34	30	26	24	24	24	24	24	24	24	24	24																			
	7	59	46	37	31	55	43	36	30	39	32	28	35	29	25	31	26	23	20	20	20	20	20	20	20	20	20																			
	8	54	41	33	27	51	39	32	26	35	29	24	32	26	22	28	24	20	18	18	18	18	18	18	18	18	18																			
	9	51	38	30	24	48	36	28	23	32	26	22	29	24	20	26	21	18	16	16	16	16	16	16	16	16	16																			
	10	47	34	27	22	44	33	26	21	30	23	19	27	21	18	24	19	16	14	14	14	14	14	14	14	14	14																			

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

	0°	45°	90°
0°	7590	7590	7590
5°	7400	10258	13444
10°	6930	19864	26163
15°	6273	25844	30113
20°	5555	28429	31536
25°	4912	30403	32054
30°	4340	31312	32449
35°	3875	31856	34885
40°	3524	32157	37066
45°	3252	32310	38815
50°	3064	32930	39516
55°	2992	33785	39831
60°	3068	34236	39635
65°	3198	33765	38514
70°	3305	32653	29132
75°	3662	29326	16076
80°	3784	15128	14923
85°	3779	10467	6280

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 52.5°  
 Luminance: 40192 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.8	1.1
10°-20°	359.6	5.2
20°-30°	632.6	9.1
30°-40°	818.8	11.8
40°-50°	903.1	13.0
50°-60°	843.2	12.2
60°-70°	651.7	9.4
70°-80°	300.6	4.3
80°-90°	57.9	0.8
90°-100°	146.2	2.1
100°-110°	463.9	6.7
110°-120°	454.9	6.6
120°-130°	370.1	5.3
130°-140°	301.8	4.4
140°-150°	235.3	3.4
150°-160°	169.5	2.4
160°-170°	103.6	1.5
170°-180°	35.0	0.5
0°-30°	1070.9	15.5
0°-40°	1889.8	27.3
0°-60°	3636.1	52.5
0°-90°	4646.3	67.1
90°-120°	1065.0	15.4
90°-150°	1972.3	28.5
90°-180°	2280.0	32.9
0°-180°	6926.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	470	470	470	470	470	
5°	457	523	633	772	830	42
15°	375	740	1546	1731	1802	105
25°	276	994	1707	1782	1799	127
35°	197	959	1616	1673	1770	124
45°	142	735	1415	1625	1700	110
55°	106	438	1200	1380	1415	96
65°	84	247	884	990	1008	82
75°	59	152	470	253	258	60
85°	20	45	56	38	34	21
90°	0	1	4	4	4	2
95°	20	59	266	98	64	23
105°	81	114	457	871	835	85
115°	144	171	370	768	903	142
125°	200	224	364	602	709	178
135°	241	265	361	518	583	186
145°	282	303	361	447	486	176
155°	321	332	363	399	414	148
165°	350	353	364	378	381	99
175°	366	365	366	368	367	35
180°	367	367	367	367	367	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	470.1	470.1	470.1	470.1	470.1
2.5°	466.5	486.0	508.1	533.6	544.2
5°	456.6	522.9	632.9	772.1	829.5
7.5°	439.0	573.7	920.4	1292.8	1407.8
10°	422.7	610.6	1211.6	1533.9	1595.8
12.5°	404.6	659.6	1394.2	1620.7	1684.5
15°	375.3	739.9	1546.1	1730.7	1801.5
17.5°	345.0	830.2	1616.6	1798.8	1837.3
20°	323.3	893.4	1654.6	1811.2	1835.4
22.5°	303.4	940.7	1681.7	1800.3	1826.4
25°	275.7	994.1	1706.6	1781.5	1799.3
27.5°	249.0	1008.1	1695.8	1745.0	1762.2
30°	232.8	1004.1	1679.5	1716.2	1740.5
32.5°	218.4	993.3	1655.9	1691.5	1744.1
35°	196.6	959.1	1616.2	1672.6	1769.9
37.5°	178.1	904.4	1563.7	1679.3	1773.0
40°	167.2	863.4	1525.7	1679.0	1758.6
42.5°	156.4	815.4	1482.4	1660.9	1740.5
45°	142.4	734.7	1415.0	1624.7	1699.9
47.5°	129.2	643.8	1352.6	1574.5	1629.2
50°	122.0	581.8	1311.0	1529.0	1573.2
52.5°	114.8	521.5	1269.5	1474.7	1515.4
55°	106.3	437.7	1200.2	1379.6	1415.0
57.5°	98.6	365.9	1121.6	1274.6	1303.4
60°	95.0	327.0	1060.2	1198.6	1227.4
62.5°	89.5	291.5	991.4	1119.0	1146.1
65°	83.7	247.2	883.8	990.5	1008.1
67.5°	75.5	214.3	769.4	834.7	801.6
70°	70.0	198.2	691.7	712.1	617.1
72.5°	66.4	180.5	606.7	552.9	372.9
75°	58.7	151.6	470.1	253.2	257.7
77.5°	47.9	117.4	309.2	194.5	198.5
80°	40.7	95.9	162.7	158.3	160.5
82.5°	33.4	74.6	112.1	116.5	113.5
85°	20.4	44.6	56.5	38.3	33.9
87.5°	7.2	16.3	9.8	9.8	9.8
90°	0.0	1.2	3.5	3.5	3.5
92.5°	6.4	25.6	82.0	27.3	19.1
95°	19.6	59.2	265.6	98.5	63.5
97.5°	36.5	76.7	449.8	281.1	172.5
100°	48.5	86.9	512.7	467.4	303.7
102.5°	61.4	98.0	501.6	686.4	525.4
105°	80.9	113.6	457.3	871.0	834.9
107.5°	100.2	130.5	415.0	890.2	939.1
110°	113.2	142.5	393.8	868.1	958.4



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**CANDELA DISTRIBUTION (continued):**

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

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**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	15.53	16.61	16.32	17.43	18.43	24.27	25.35	25.06	26.16	27.17
	3H	16.28	17.25	17.08	18.07	19.11	25.91	26.88	26.71	27.70	28.73
	4H	16.59	17.50	17.41	18.34	19.38	26.10	27.01	26.92	27.85	28.89
	6H	16.82	17.66	17.65	18.50	19.56	26.20	27.04	27.03	27.88	28.94
	8H	16.88	17.69	17.72	18.55	19.60	26.21	27.01	27.05	27.87	28.93
	12H	16.92	17.69	17.77	18.54	19.62	26.19	26.95	27.03	27.81	28.89
4H	2H	19.96	20.87	20.78	21.71	22.75	24.74	25.65	25.56	26.49	27.53
	3H	20.91	21.68	21.75	22.54	23.60	26.59	27.35	27.42	28.22	29.27
	4H	21.20	21.90	22.06	22.76	23.85	26.83	27.53	27.68	28.39	29.48
	6H	21.35	21.95	22.22	22.84	23.93	26.99	27.59	27.86	28.48	29.57
	8H	21.38	21.94	22.25	22.82	23.92	27.02	27.58	27.89	28.47	29.57
	12H	21.38	21.88	22.27	22.79	23.90	27.01	27.51	27.90	28.42	29.52
8H	4H	22.40	22.96	23.27	23.84	24.95	26.97	27.53	27.84	28.41	29.52
	6H	22.65	23.11	23.54	24.04	25.14	27.19	27.65	28.08	28.58	29.68
	8H	22.72	23.13	23.63	24.05	25.17	27.25	27.66	28.16	28.58	29.70
	12H	22.76	23.12	23.67	24.03	25.20	27.25	27.61	28.17	28.53	29.70
12H	4H	22.43	22.93	23.32	23.84	24.94	26.93	27.44	27.82	28.34	29.45
	6H	22.74	23.15	23.65	24.07	25.19	27.17	27.58	28.08	28.50	29.62
	8H	22.86	23.22	23.77	24.13	25.30	27.25	27.61	28.16	28.52	29.69