

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: FAIL-SAFE

Report Number: P590435

Luminaire Tested: FSR-24-2-LD4-3HI-35-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590435
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-3HI-35-UNV-81-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6761.0 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

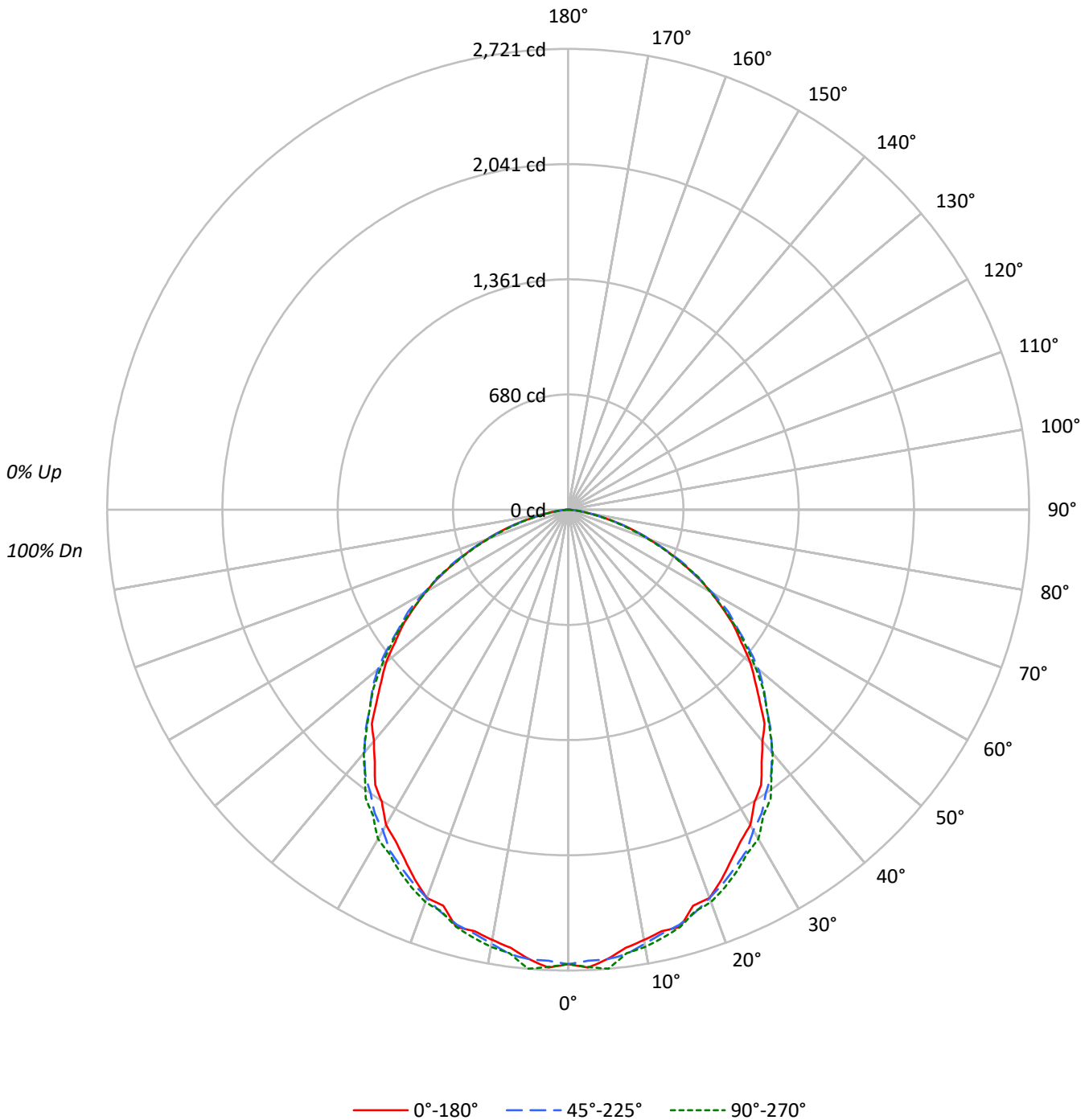
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7219	7219	7219
5°	7195	7198	7349
10°	7049	7110	7161
15°	7105	7066	7106
20°	6985	6985	7059
25°	6770	6918	6994
30°	6677	6794	6975
35°	6520	6690	6841
40°	6266	6568	6597
45°	6076	6293	6302
50°	5877	6142	6025
55°	5600	5709	5668
60°	5236	5288	5194
65°	4669	4788	4636
70°	4006	4020	3908
75°	3172	3166	3043
80°	2126	2067	1987
85°	1155	1145	1068

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6455 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.3	3.7
10°-20°	715.2	10.6
20°-30°	1071.5	15.8
30°-40°	1269.9	18.8
40°-50°	1272.2	18.8
50°-60°	1079.9	16.0
60°-70°	728.1	10.8
70°-80°	319.9	4.7
80°-90°	52.0	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2039.0	30.2
0°-40°	3308.8	48.9
0°-60°	5661.0	83.7
0°-90°	6761.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6761.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2683	2683	2683	2683	2683	
5°	2664	2657	2665	2657	2721	251
15°	2550	2521	2536	2550	2551	711
25°	2280	2293	2330	2360	2356	1054
35°	1985	1991	2037	2084	2082	1232
45°	1597	1626	1654	1696	1656	1235
55°	1194	1186	1217	1208	1208	1062
65°	733	724	752	723	728	729
75°	305	299	304	283	293	327
85°	37	36	37	36	35	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2682.6	2682.6	2682.6	2682.6	2682.6
2.5°	2705.8	2685.4	2666.3	2688.5	2702.0
5°	2663.5	2657.3	2664.6	2656.6	2720.7
7.5°	2608.8	2632.7	2646.6	2637.9	2641.7
10°	2579.7	2571.4	2602.2	2623.7	2620.6
12.5°	2548.6	2561.0	2562.8	2586.0	2588.0
15°	2550.3	2520.8	2536.4	2549.6	2550.6
17.5°	2451.2	2483.1	2493.8	2524.0	2486.6
20°	2439.1	2415.9	2439.1	2469.9	2465.1
22.5°	2364.6	2338.7	2388.5	2415.9	2414.2
25°	2280.1	2292.6	2330.0	2360.5	2355.6
27.5°	2206.0	2220.5	2273.9	2315.8	2288.8
30°	2148.8	2141.6	2186.6	2224.0	2244.8
32.5°	2046.7	2073.0	2125.6	2162.7	2143.0
35°	1984.7	1990.6	2036.6	2083.7	2082.3
37.5°	1876.3	1903.6	1968.4	1981.6	1969.4
40°	1783.8	1811.1	1869.7	1883.9	1878.0
42.5°	1715.5	1720.4	1770.6	1786.9	1760.9
45°	1596.7	1626.5	1653.5	1696.1	1656.0
47.5°	1495.6	1509.5	1567.6	1579.1	1557.9
50°	1403.8	1408.7	1467.2	1453.0	1439.1
52.5°	1288.5	1308.9	1341.8	1339.0	1322.8
55°	1193.6	1185.6	1216.8	1208.5	1208.1
57.5°	1079.6	1093.5	1119.1	1105.9	1084.8
60°	972.9	973.3	982.6	967.7	965.0
62.5°	854.1	858.3	860.4	842.0	871.8
65°	733.3	723.6	752.0	723.2	728.1
67.5°	622.1	626.9	624.1	606.1	613.1
70°	509.2	515.4	510.9	490.5	496.7
72.5°	405.9	398.3	403.2	377.5	389.3
75°	305.1	298.9	304.5	283.0	292.7
77.5°	207.8	212.7	209.2	197.8	204.4
80°	137.2	133.4	133.4	126.8	128.2
82.5°	80.0	76.2	75.2	73.1	76.2
85°	37.4	36.4	37.1	36.0	34.6
87.5°	13.5	13.9	13.9	13.2	12.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)