

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: P562156

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562156
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-1HI-50-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4248.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

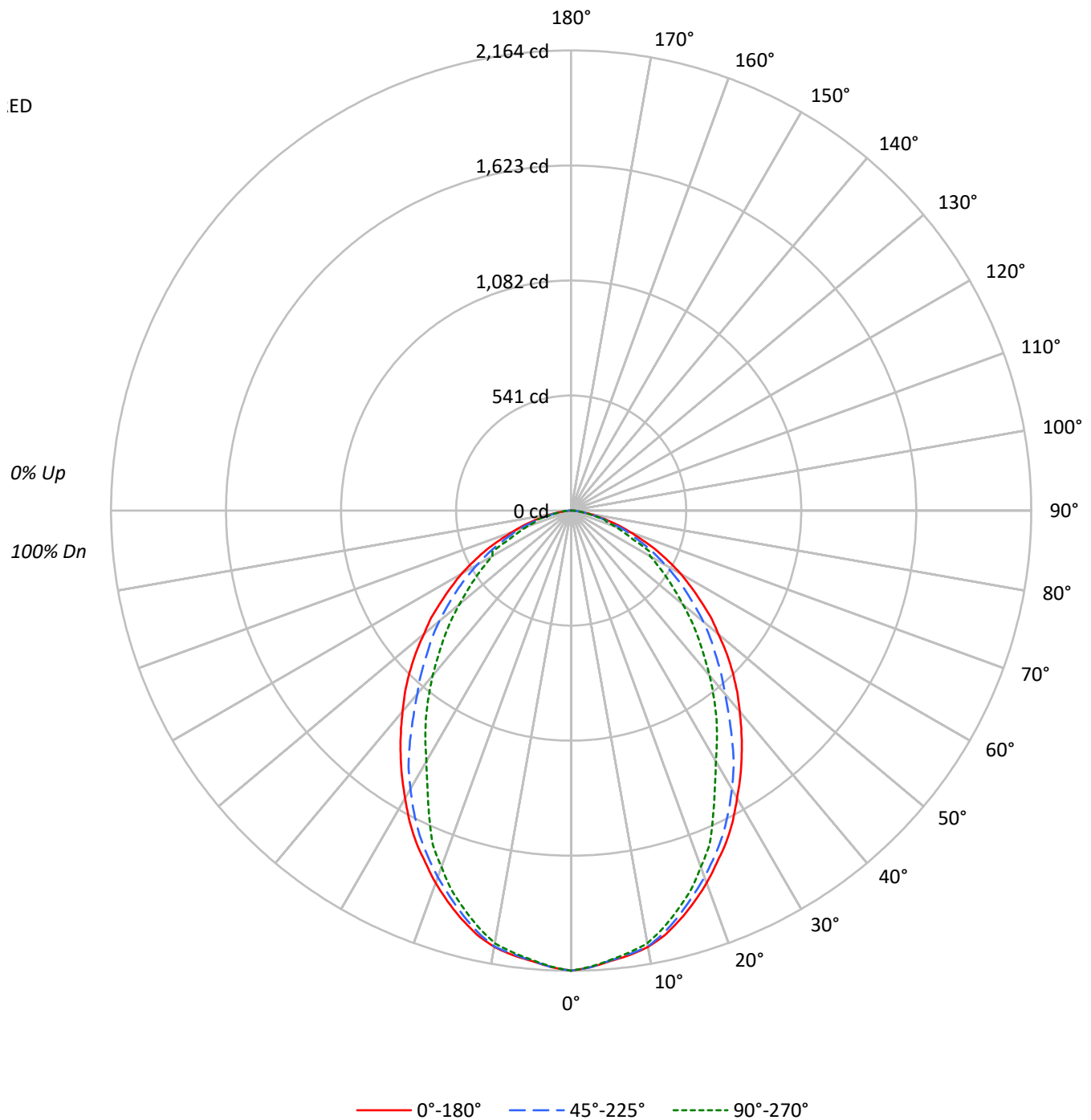
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2912	2912	2912
5°	2872	2868	2865
10°	2847	2844	2823
15°	2770	2742	2704
20°	2669	2626	2554
25°	2559	2503	2347
30°	2425	2348	2114
35°	2297	2169	1956
40°	2166	1977	1779
45°	2042	1828	1609
50°	1890	1697	1435
55°	1749	1537	1285
60°	1602	1373	1151
65°	1410	1202	1019
70°	1161	1053	866
75°	923	806	845
80°	621	581	542
85°	386	463	540

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2042 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.4	4.7
10°-20°	552.8	13.0
20°-30°	765.3	18.0
30°-40°	816.0	19.2
40°-50°	744.5	17.5
50°-60°	583.2	13.7
60°-70°	380.1	8.9
70°-80°	168.4	4.0
80°-90°	36.1	0.9
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°	1519.5	35.8
0°-40°	2335.6	55.0
0°-60°	3663.3	86.2
0°-90°	4248.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4248.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2164	2164	2164	2164	2164	
5°	2126	2124	2124	2121	2121	202
15°	1989	1989	1969	1949	1941	559
25°	1724	1714	1686	1626	1581	791
35°	1398	1388	1321	1221	1191	874
45°	1073	1051	961	881	846	827
55°	746	723	655	578	548	669
65°	443	418	378	385	320	436
75°	178	165	155	148	163	190
85°	25	28	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2163.9	2163.9	2163.9	2163.9	2163.9
2.5°	2148.9	2148.9	2148.9	2146.4	2146.4
5°	2126.4	2123.8	2123.8	2121.3	2121.3
7.5°	2108.8	2106.3	2103.8	2101.3	2096.3
10°	2083.8	2083.8	2081.3	2068.8	2066.3
12.5°	2043.8	2041.3	2031.3	2013.8	2008.8
15°	1988.8	1988.8	1968.8	1948.7	1941.2
17.5°	1928.7	1926.2	1901.2	1881.2	1871.2
20°	1863.7	1858.7	1833.7	1801.1	1783.6
22.5°	1791.1	1791.1	1761.1	1718.6	1701.1
25°	1723.6	1713.6	1686.1	1626.0	1581.0
27.5°	1646.0	1631.0	1601.0	1516.0	1463.4
30°	1561.0	1553.5	1511.0	1400.9	1360.9
32.5°	1480.9	1468.4	1423.4	1308.3	1275.8
35°	1398.4	1388.4	1320.8	1220.8	1190.8
37.5°	1315.8	1303.3	1218.3	1138.2	1100.7
40°	1233.3	1218.3	1125.7	1053.2	1013.1
42.5°	1155.7	1135.7	1045.7	968.1	923.1
45°	1073.2	1050.7	960.6	880.6	845.5
47.5°	990.6	970.6	888.1	805.5	765.5
50°	903.1	885.6	810.5	728.0	685.4
52.5°	830.5	803.0	730.5	647.9	612.9
55°	745.5	723.0	655.4	577.9	547.8
57.5°	667.9	645.4	582.9	510.3	485.3
60°	595.4	562.9	510.3	447.8	427.8
62.5°	515.3	490.3	445.3	392.7	417.8
65°	442.8	417.8	377.7	385.2	320.2
67.5°	362.7	350.2	315.2	280.2	270.2
70°	295.2	280.2	267.7	230.1	220.1
72.5°	235.1	220.1	202.6	182.6	175.1
75°	177.6	165.1	155.1	147.6	162.6
77.5°	122.6	117.6	110.1	102.6	100.1
80°	80.1	77.5	75.0	72.5	70.0
82.5°	47.5	47.5	47.5	47.5	47.5
85°	25.0	27.5	30.0	32.5	35.0
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)