

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: P590159

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590159
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-LD4-2HI-35-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4648.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

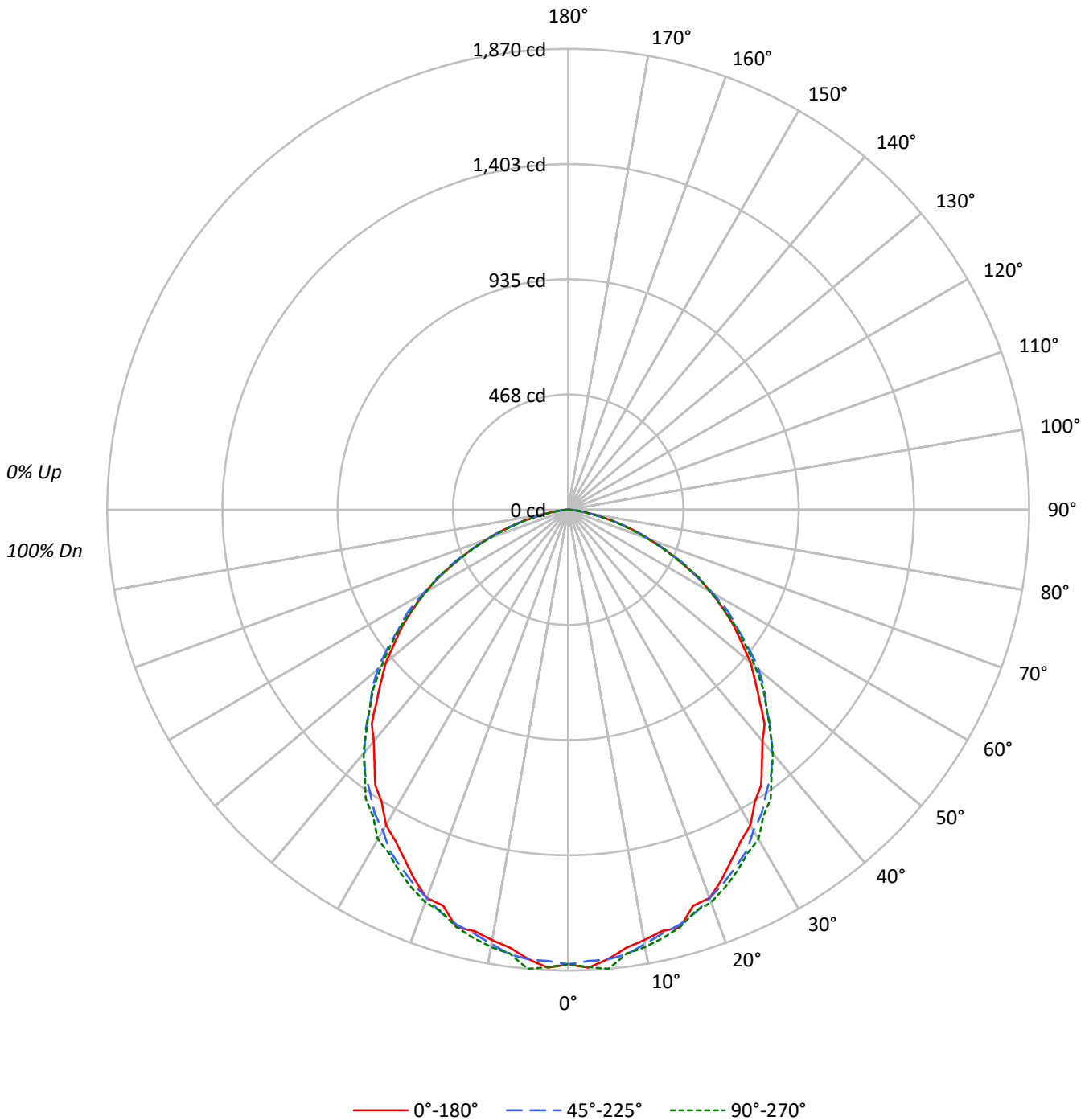
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4963	4963	4963
5°	4946	4948	5052
10°	4846	4888	4923
15°	4884	4858	4885
20°	4802	4802	4853
25°	4654	4756	4808
30°	4590	4671	4795
35°	4482	4599	4703
40°	4308	4515	4535
45°	4177	4326	4332
50°	4040	4223	4142
55°	3849	3925	3896
60°	3600	3636	3570
65°	3210	3291	3187
70°	2754	2763	2687
75°	2181	2176	2092
80°	1461	1421	1365
85°	794	787	735

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4438 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.5	3.7
10°-20°	491.7	10.6
20°-30°	736.6	15.8
30°-40°	873.0	18.8
40°-50°	874.6	18.8
50°-60°	742.4	16.0
60°-70°	500.5	10.8
70°-80°	219.9	4.7
80°-90°	35.7	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°	1401.7	30.2
0°-40°	2274.7	48.9
0°-60°	3891.8	83.7
0°-90°	4648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1844	1844	1844	1844	1844	
5°	1831	1827	1832	1826	1870	173
15°	1753	1733	1744	1753	1754	488
25°	1568	1576	1602	1623	1619	725
35°	1364	1368	1400	1432	1432	847
45°	1098	1118	1137	1166	1138	849
55°	820	815	836	831	830	730
65°	504	497	517	497	500	501
75°	210	206	209	194	201	225
85°	26	25	26	25	24	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1844.2	1844.2	1844.2	1844.2	1844.2
2.5°	1860.2	1846.1	1833.0	1848.3	1857.5
5°	1831.1	1826.8	1831.8	1826.4	1870.4
7.5°	1793.5	1809.9	1819.4	1813.5	1816.1
10°	1773.5	1767.8	1789.0	1803.7	1801.6
12.5°	1752.1	1760.6	1761.8	1777.8	1779.2
15°	1753.2	1733.0	1743.7	1752.8	1753.5
17.5°	1685.1	1707.1	1714.4	1735.2	1709.4
20°	1676.8	1660.9	1676.8	1698.0	1694.7
22.5°	1625.6	1607.8	1642.0	1660.9	1659.7
25°	1567.5	1576.1	1601.8	1622.8	1619.4
27.5°	1516.6	1526.6	1563.2	1592.0	1573.5
30°	1477.3	1472.3	1503.2	1528.9	1543.2
32.5°	1407.0	1425.1	1461.3	1486.8	1473.2
35°	1364.4	1368.5	1400.1	1432.5	1431.6
37.5°	1289.9	1308.7	1353.2	1362.3	1353.9
40°	1226.3	1245.1	1285.4	1295.1	1291.1
42.5°	1179.4	1182.7	1217.2	1228.4	1210.6
45°	1097.7	1118.2	1136.8	1166.1	1138.4
47.5°	1028.2	1037.7	1077.7	1085.6	1071.0
50°	965.1	968.4	1008.7	998.9	989.4
52.5°	885.8	899.8	922.5	920.6	909.4
55°	820.5	815.1	836.5	830.8	830.5
57.5°	742.2	751.7	769.4	760.3	745.8
60°	668.9	669.1	675.5	665.3	663.4
62.5°	587.2	590.1	591.5	578.9	599.3
65°	504.1	497.4	516.9	497.2	500.5
67.5°	427.7	431.0	429.1	416.7	421.5
70°	350.0	354.3	351.2	337.2	341.5
72.5°	279.1	273.8	277.2	259.5	267.6
75°	209.8	205.5	209.3	194.5	201.2
77.5°	142.9	146.2	143.8	136.0	140.5
80°	94.3	91.7	91.7	87.2	88.1
82.5°	55.0	52.4	51.7	50.2	52.4
85°	25.7	25.0	25.5	24.8	23.8
87.5°	9.3	9.5	9.5	9.0	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)