

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: P590860

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590860
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-LD4-4LO-40-UNV-82-97-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5344.0 lumens
Efficiency: N/A
Efficacy: 114.2 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

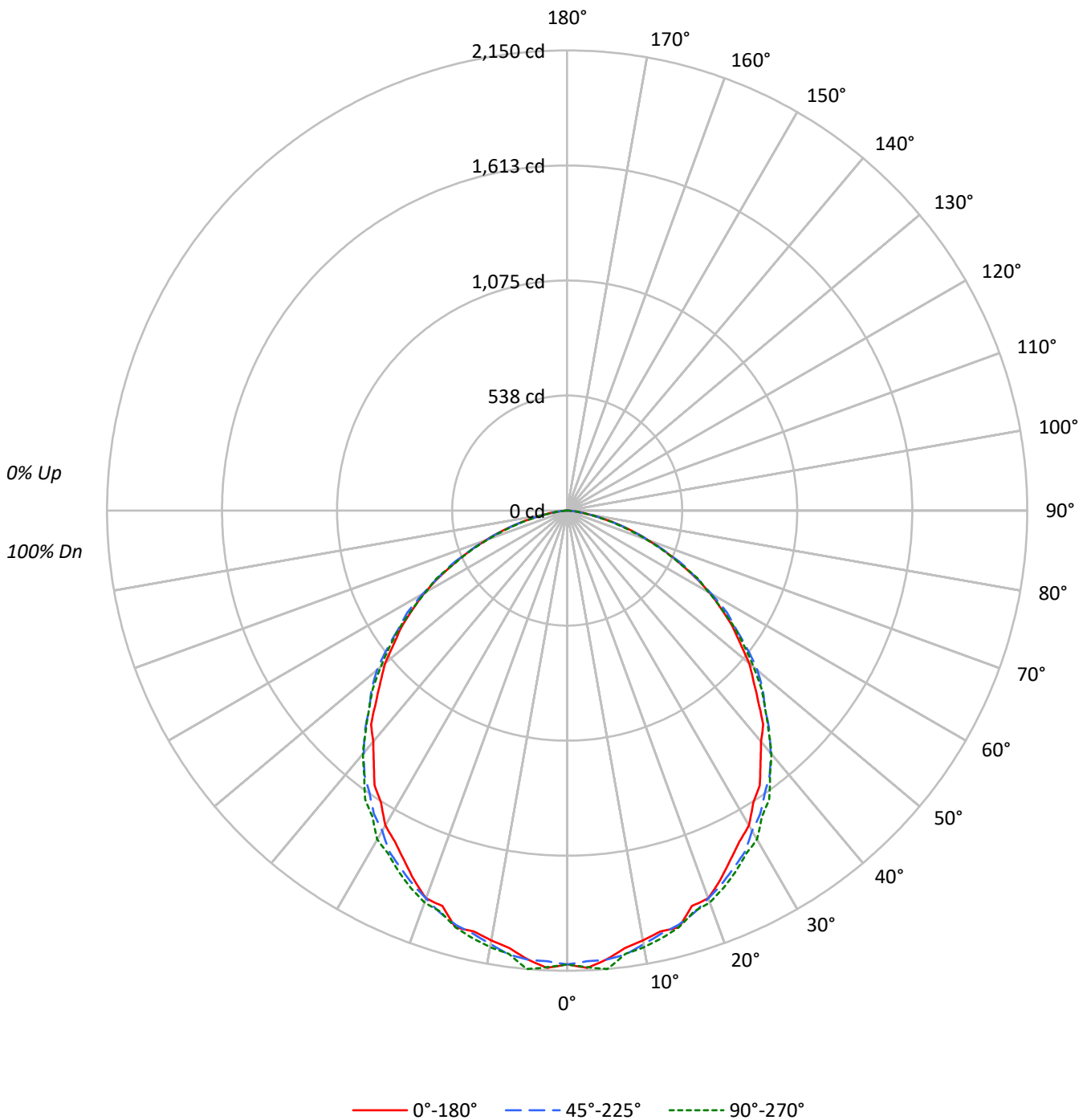
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	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°	5706	5706	5706
5°	5687	5689	5809
10°	5572	5620	5660
15°	5616	5585	5617
20°	5521	5521	5580
25°	5351	5468	5528
30°	5278	5370	5513
35°	5153	5288	5407
40°	4953	5191	5214
45°	4803	4974	4981
50°	4645	4855	4762
55°	4426	4512	4480
60°	4139	4180	4105
65°	3691	3785	3664
70°	3166	3177	3089
75°	2508	2502	2405
80°	1680	1633	1570
85°	914	905	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5102 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.5	3.7
10°-20°	565.3	10.6
20°-30°	846.9	15.8
30°-40°	1003.7	18.8
40°-50°	1005.6	18.8
50°-60°	853.6	16.0
60°-70°	575.5	10.8
70°-80°	252.9	4.7
80°-90°	41.1	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°	1611.6	30.2
0°-40°	2615.4	48.9
0°-60°	4474.5	83.7
0°-90°	5344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5344.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2120	2120	2120	2120	2120	
5°	2105	2100	2106	2100	2150	198
15°	2016	1992	2005	2015	2016	562
25°	1802	1812	1842	1866	1862	833
35°	1569	1573	1610	1647	1646	974
45°	1262	1286	1307	1341	1309	976
55°	943	937	962	955	955	839
65°	580	572	594	572	576	576
75°	241	236	241	224	231	258
85°	30	29	29	28	27	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2120.4	2120.4	2120.4	2120.4	2120.4
2.5°	2138.7	2122.6	2107.5	2125.0	2135.7
5°	2105.3	2100.4	2106.1	2099.8	2150.5
7.5°	2062.1	2080.9	2091.9	2085.0	2088.1
10°	2039.1	2032.5	2056.8	2073.8	2071.4
12.5°	2014.4	2024.3	2025.6	2044.0	2045.6
15°	2015.8	1992.5	2004.8	2015.2	2016.1
17.5°	1937.5	1962.7	1971.2	1995.0	1965.4
20°	1927.9	1909.6	1927.9	1952.3	1948.4
22.5°	1869.0	1848.5	1887.9	1909.6	1908.2
25°	1802.2	1812.1	1841.7	1865.8	1861.9
27.5°	1743.7	1755.2	1797.3	1830.4	1809.1
30°	1698.5	1692.7	1728.3	1757.9	1774.3
32.5°	1617.7	1638.5	1680.1	1709.4	1693.8
35°	1568.7	1573.4	1609.8	1647.0	1645.9
37.5°	1483.0	1504.7	1555.8	1566.2	1556.7
40°	1409.9	1431.6	1477.8	1489.0	1484.4
42.5°	1356.0	1359.8	1399.5	1412.4	1391.9
45°	1262.1	1285.6	1307.0	1340.7	1308.9
47.5°	1182.1	1193.1	1239.1	1248.1	1231.4
50°	1109.6	1113.4	1159.7	1148.5	1137.5
52.5°	1018.4	1034.6	1060.6	1058.4	1045.5
55°	943.4	937.1	961.8	955.2	954.9
57.5°	853.3	864.3	884.6	874.2	857.5
60°	769.0	769.3	776.7	764.9	762.7
62.5°	675.1	678.4	680.0	665.5	689.1
65°	579.6	571.9	594.4	571.6	575.5
67.5°	491.7	495.5	493.3	479.1	484.6
70°	402.4	407.4	403.8	387.7	392.6
72.5°	320.9	314.8	318.7	298.4	307.7
75°	241.2	236.3	240.6	223.7	231.3
77.5°	164.3	168.1	165.4	156.3	161.5
80°	108.4	105.4	105.4	100.2	101.3
82.5°	63.2	60.2	59.4	57.8	60.2
85°	29.6	28.7	29.3	28.5	27.4
87.5°	10.7	11.0	11.0	10.4	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)