

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: P590688

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590688
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-LD4-3STD-50-UNV-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5356.0 lumens
Efficiency: N/A
Efficacy: 107.1 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

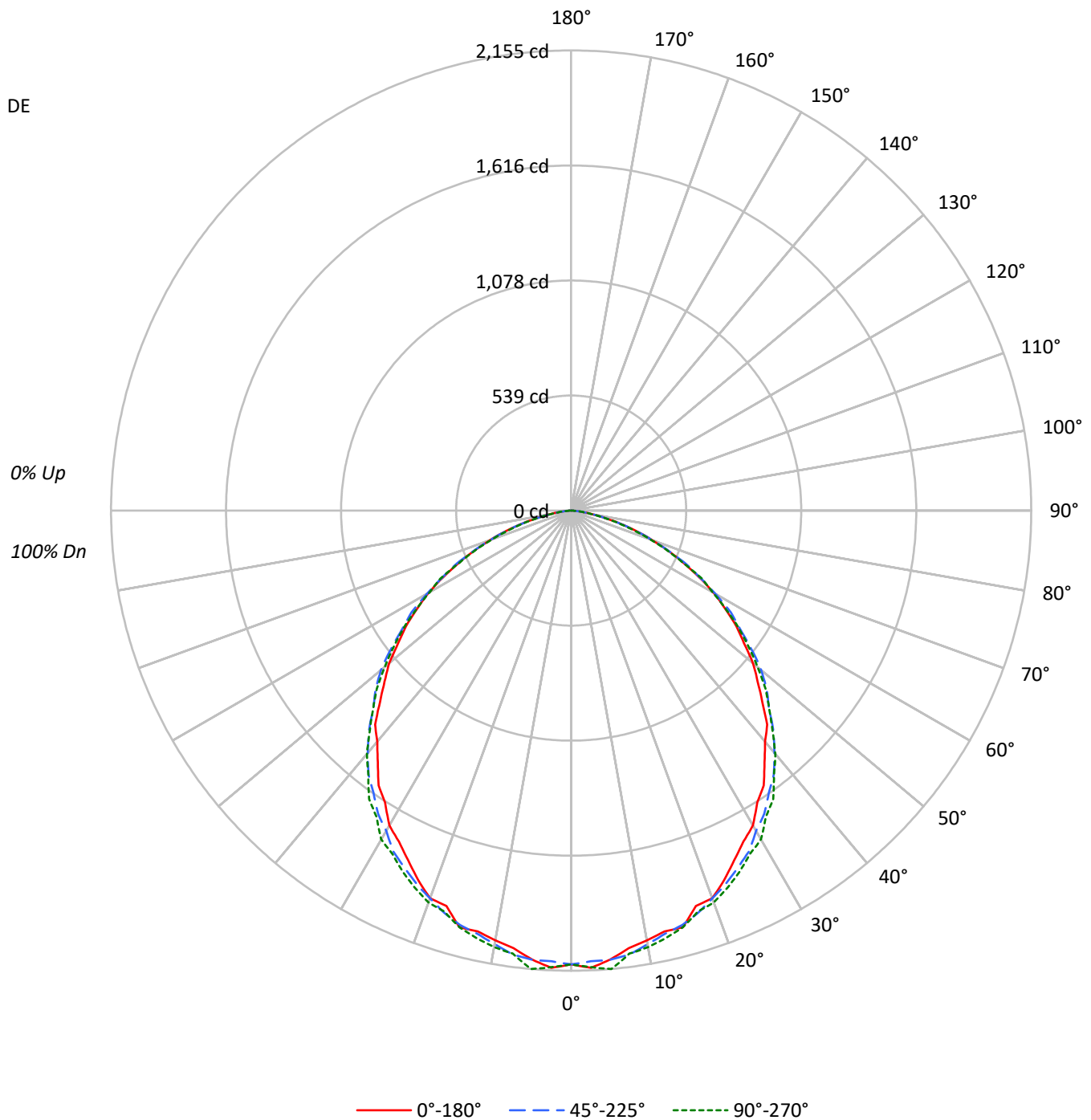
Input Watts (W): 50
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5719	5719	5719
5°	5700	5702	5822
10°	5584	5633	5673
15°	5628	5598	5629
20°	5533	5533	5592
25°	5363	5480	5541
30°	5290	5382	5526
35°	5165	5300	5419
40°	4964	5203	5226
45°	4814	4985	4992
50°	4656	4866	4773
55°	4436	4522	4490
60°	4148	4189	4114
65°	3699	3793	3673
70°	3173	3184	3096
75°	2513	2508	2411
80°	1684	1636	1573
85°	914	908	846

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5114 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.9	3.7
10°-20°	566.5	10.6
20°-30°	848.8	15.8
30°-40°	1006.0	18.8
40°-50°	1007.9	18.8
50°-60°	855.5	16.0
60°-70°	576.8	10.8
70°-80°	253.4	4.7
80°-90°	41.2	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°	1615.2	30.2
0°-40°	2621.2	48.9
0°-60°	4484.6	83.7
0°-90°	5356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5356.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2125	2125	2125	2125	2125	
5°	2110	2105	2111	2104	2155	199
15°	2020	1997	2009	2020	2021	563
25°	1806	1816	1846	1870	1866	835
35°	1572	1577	1613	1651	1650	976
45°	1265	1288	1310	1344	1312	978
55°	946	939	964	957	957	841
65°	581	573	596	573	577	578
75°	242	237	241	224	232	259
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°	2125.1	2125.1	2125.1	2125.1	2125.1
2.5°	2143.5	2127.3	2112.2	2129.8	2140.5
5°	2110.0	2105.1	2110.9	2104.5	2155.3
7.5°	2066.7	2085.6	2096.6	2089.7	2092.7
10°	2043.6	2037.0	2061.5	2078.5	2076.0
12.5°	2018.9	2028.8	2030.2	2048.6	2050.2
15°	2020.3	1997.0	2009.3	2019.8	2020.6
17.5°	1941.8	1967.1	1975.6	1999.5	1969.8
20°	1932.2	1913.8	1932.2	1956.7	1952.8
22.5°	1873.2	1852.7	1892.2	1913.8	1912.5
25°	1806.3	1816.2	1845.8	1869.9	1866.1
27.5°	1747.6	1759.1	1801.3	1834.5	1813.1
30°	1702.3	1696.5	1732.2	1761.8	1778.3
32.5°	1621.4	1642.2	1683.9	1713.3	1697.6
35°	1572.2	1576.9	1613.4	1650.7	1649.6
37.5°	1486.4	1508.0	1559.3	1569.8	1560.2
40°	1413.1	1434.8	1481.1	1492.4	1487.7
42.5°	1359.0	1362.9	1402.7	1415.6	1395.0
45°	1264.9	1288.5	1309.9	1343.7	1311.8
47.5°	1184.8	1195.8	1241.9	1250.9	1234.2
50°	1112.1	1115.9	1162.3	1151.1	1140.1
52.5°	1020.7	1036.9	1063.0	1060.8	1047.9
55°	945.5	939.2	963.9	957.3	957.1
57.5°	855.3	866.2	886.5	876.1	859.4
60°	770.8	771.0	778.4	766.6	764.4
62.5°	676.6	679.9	681.6	667.0	690.6
65°	580.9	573.2	595.7	572.9	576.8
67.5°	492.8	496.6	494.4	480.2	485.7
70°	403.3	408.3	404.7	388.5	393.5
72.5°	321.6	315.5	319.4	299.1	308.4
75°	241.7	236.8	241.2	224.2	231.9
77.5°	164.6	168.5	165.7	156.7	161.9
80°	108.7	105.6	105.6	100.4	101.5
82.5°	63.4	60.4	59.5	57.9	60.4
85°	29.6	28.8	29.4	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)