

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: P560805

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560805
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-12-4-LD4-1HI-35-UNV-93-86-EDD
Description: 1X4 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: 3956.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

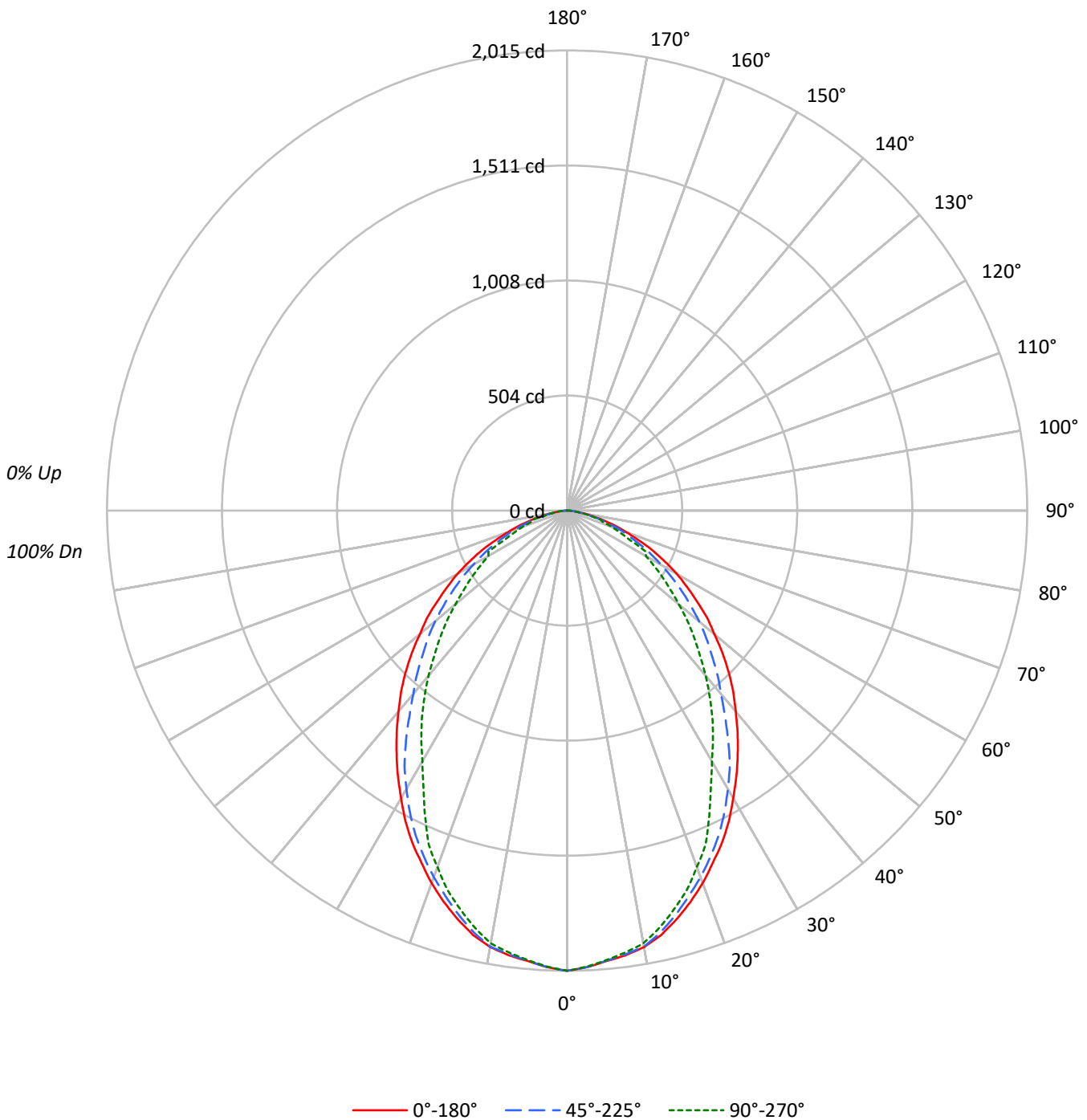
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5423	5423	5423
5°	5349	5343	5336
10°	5303	5296	5258
15°	5160	5108	5036
20°	4970	4890	4757
25°	4766	4662	4372
30°	4517	4372	3938
35°	4278	4041	3643
40°	4034	3682	3314
45°	3803	3405	2997
50°	3521	3160	2672
55°	3257	2864	2394
60°	2984	2558	2144
65°	2625	2240	1899
70°	2163	1961	1613
75°	1720	1501	1574
80°	1155	1083	1010
85°	719	865	1007

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3803 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.6	4.7
10°-20°	514.8	13.0
20°-30°	712.7	18.0
30°-40°	760.0	19.2
40°-50°	693.3	17.5
50°-60°	543.1	13.7
60°-70°	354.0	8.9
70°-80°	156.8	4.0
80°-90°	33.7	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°	1415.1	35.8
0°-40°	2175.0	55.0
0°-60°	3411.5	86.2
0°-90°	3956.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3956.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2015	2015	2015	2015	2015	
5°	1980	1978	1978	1976	1976	188
15°	1852	1852	1833	1815	1808	521
25°	1605	1596	1570	1514	1472	737
35°	1302	1293	1230	1137	1109	814
45°	999	978	895	820	787	770
55°	694	673	610	538	510	623
65°	412	389	352	359	298	406
75°	165	154	144	137	151	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2015.1	2015.1	2015.1	2015.1	2015.1
2.5°	2001.2	2001.2	2001.2	1998.8	1998.8
5°	1980.2	1977.9	1977.9	1975.5	1975.5
7.5°	1963.9	1961.6	1959.2	1956.9	1952.2
10°	1940.6	1940.6	1938.3	1926.6	1924.3
12.5°	1903.3	1901.0	1891.7	1875.4	1870.7
15°	1852.1	1852.1	1833.4	1814.8	1807.8
17.5°	1796.1	1793.8	1770.5	1751.9	1742.6
20°	1735.6	1730.9	1707.6	1677.3	1661.0
22.5°	1668.0	1668.0	1640.1	1600.5	1584.2
25°	1605.1	1595.8	1570.2	1514.3	1472.3
27.5°	1532.9	1518.9	1491.0	1411.8	1362.8
30°	1453.7	1446.7	1407.1	1304.6	1267.3
32.5°	1379.1	1367.5	1325.6	1218.4	1188.1
35°	1302.3	1292.9	1230.0	1136.9	1108.9
37.5°	1225.4	1213.7	1134.5	1060.0	1025.0
40°	1148.5	1134.5	1048.3	980.8	943.5
42.5°	1076.3	1057.7	973.8	901.6	859.6
45°	999.4	978.4	894.6	820.0	787.4
47.5°	922.5	903.9	827.0	750.1	712.9
50°	841.0	824.7	754.8	677.9	638.3
52.5°	773.4	747.8	680.3	603.4	570.8
55°	694.2	673.3	610.4	538.1	510.2
57.5°	622.0	601.0	542.8	475.2	451.9
60°	554.5	524.2	475.2	417.0	398.4
62.5°	479.9	456.6	414.7	365.8	389.0
65°	412.3	389.0	351.8	358.8	298.2
67.5°	337.8	326.1	293.5	260.9	251.6
70°	274.9	260.9	249.3	214.3	205.0
72.5°	219.0	205.0	188.7	170.1	163.1
75°	165.4	153.8	144.4	137.4	151.4
77.5°	114.2	109.5	102.5	95.5	93.2
80°	74.5	72.2	69.9	67.6	65.2
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.6	28.0	30.3	32.6
87.5°	14.0	14.0	16.3	18.6	21.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)