

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: P562019

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562019
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-35-UNV-93-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4701.0 lumens
Efficiency: N/A
Efficacy: 108.8 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

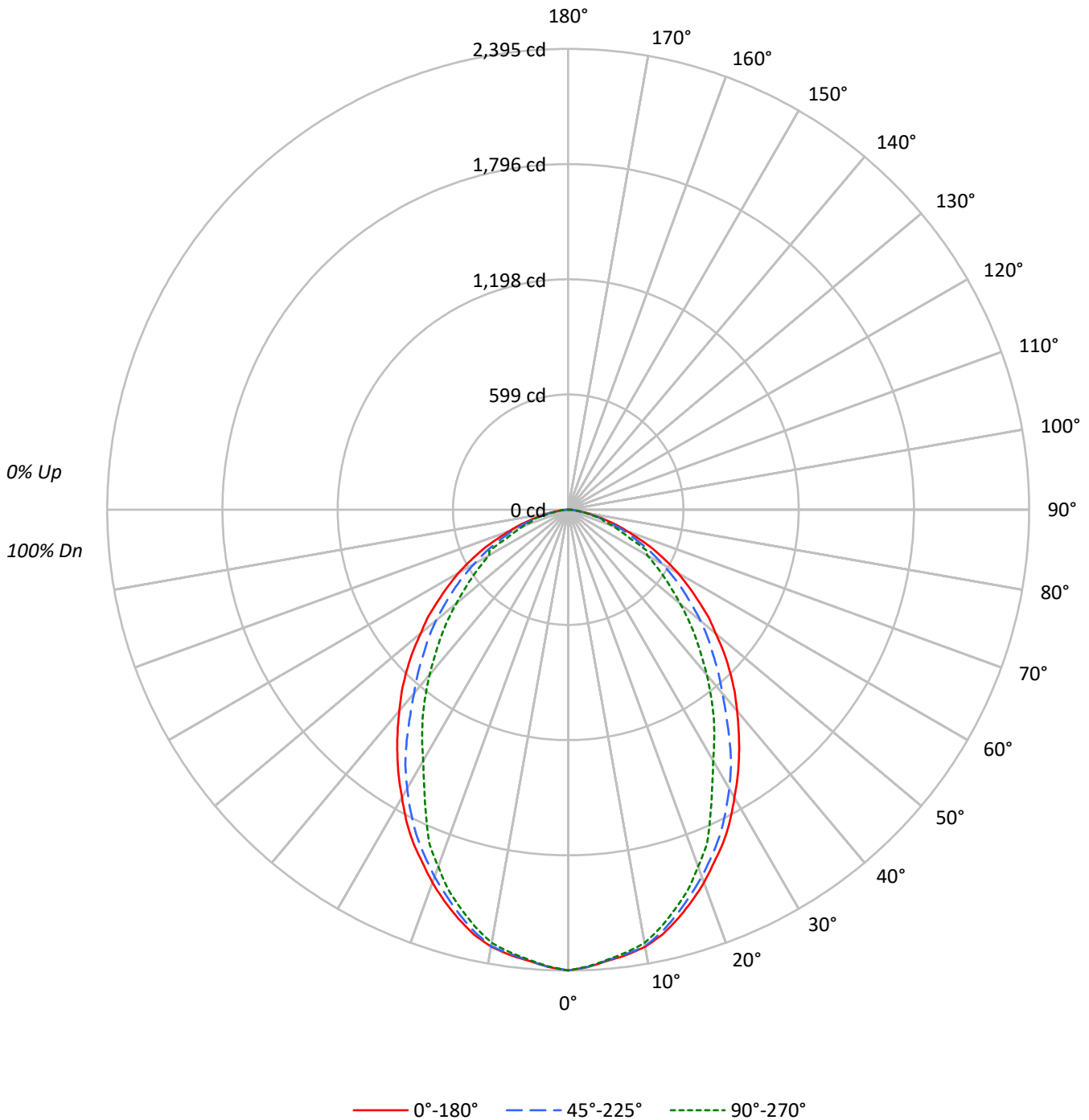
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3222	3222	3222
5°	3178	3174	3171
10°	3151	3147	3124
15°	3066	3035	2992
20°	2953	2905	2826
25°	2832	2770	2597
30°	2684	2598	2340
35°	2542	2401	2164
40°	2397	2188	1969
45°	2260	2023	1780
50°	2092	1877	1588
55°	1935	1701	1422
60°	1773	1520	1274
65°	1560	1331	1128
70°	1285	1165	958
75°	1022	892	935
80°	687	644	600
85°	428	513	599

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2260 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.9	4.7
10°-20°	611.7	13.0
20°-30°	846.9	18.0
30°-40°	903.1	19.2
40°-50°	823.9	17.5
50°-60°	645.4	13.7
60°-70°	420.7	8.9
70°-80°	186.4	4.0
80°-90°	40.0	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°	1681.6	35.8
0°-40°	2584.7	55.0
0°-60°	4053.9	86.2
0°-90°	4701.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4701.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2395	2395	2395	2395	2395	
5°	2353	2350	2350	2348	2348	223
15°	2201	2201	2179	2156	2148	619
25°	1907	1896	1866	1799	1750	876
35°	1548	1536	1462	1351	1318	967
45°	1188	1163	1063	974	936	915
55°	825	800	725	640	606	740
65°	490	462	418	426	354	483
75°	197	183	172	163	180	211
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2394.6	2394.6	2394.6	2394.6	2394.6
2.5°	2378.0	2378.0	2378.0	2375.2	2375.2
5°	2353.1	2350.3	2350.3	2347.6	2347.6
7.5°	2333.7	2331.0	2328.2	2325.4	2319.9
10°	2306.0	2306.0	2303.3	2289.4	2286.7
12.5°	2261.7	2259.0	2247.9	2228.5	2223.0
15°	2200.8	2200.8	2178.7	2156.5	2148.2
17.5°	2134.4	2131.6	2103.9	2081.8	2070.7
20°	2062.4	2056.9	2029.2	1993.2	1973.8
22.5°	1982.1	1982.1	1948.9	1901.9	1882.5
25°	1907.4	1896.3	1865.9	1799.4	1749.6
27.5°	1821.6	1805.0	1771.7	1677.6	1619.5
30°	1727.5	1719.1	1672.1	1550.3	1506.0
32.5°	1638.9	1625.0	1575.2	1447.8	1411.9
35°	1547.5	1536.4	1461.7	1351.0	1317.7
37.5°	1456.2	1442.3	1348.2	1259.6	1218.1
40°	1364.8	1348.2	1245.8	1165.5	1121.2
42.5°	1279.0	1256.8	1157.2	1071.4	1021.5
45°	1187.6	1162.7	1063.0	974.5	935.7
47.5°	1096.3	1074.1	982.8	891.4	847.1
50°	999.4	980.0	896.9	805.6	758.5
52.5°	919.1	888.6	808.4	717.0	678.2
55°	825.0	800.1	725.3	639.5	606.3
57.5°	739.2	714.2	645.0	564.7	537.1
60°	658.9	622.9	564.7	495.5	473.4
62.5°	570.3	542.6	492.8	434.6	462.3
65°	490.0	462.3	418.0	426.3	354.3
67.5°	401.4	387.6	348.8	310.1	299.0
70°	326.7	310.1	296.2	254.7	243.6
72.5°	260.2	243.6	224.2	202.1	193.8
75°	196.6	182.7	171.6	163.3	179.9
77.5°	135.6	130.1	121.8	113.5	110.7
80°	88.6	85.8	83.1	80.3	77.5
82.5°	52.6	52.6	52.6	52.6	52.6
85°	27.7	30.5	33.2	36.0	38.8
87.5°	16.6	16.6	19.4	22.1	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)