

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: P562090

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562090
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-40-UNV-93-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4080.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

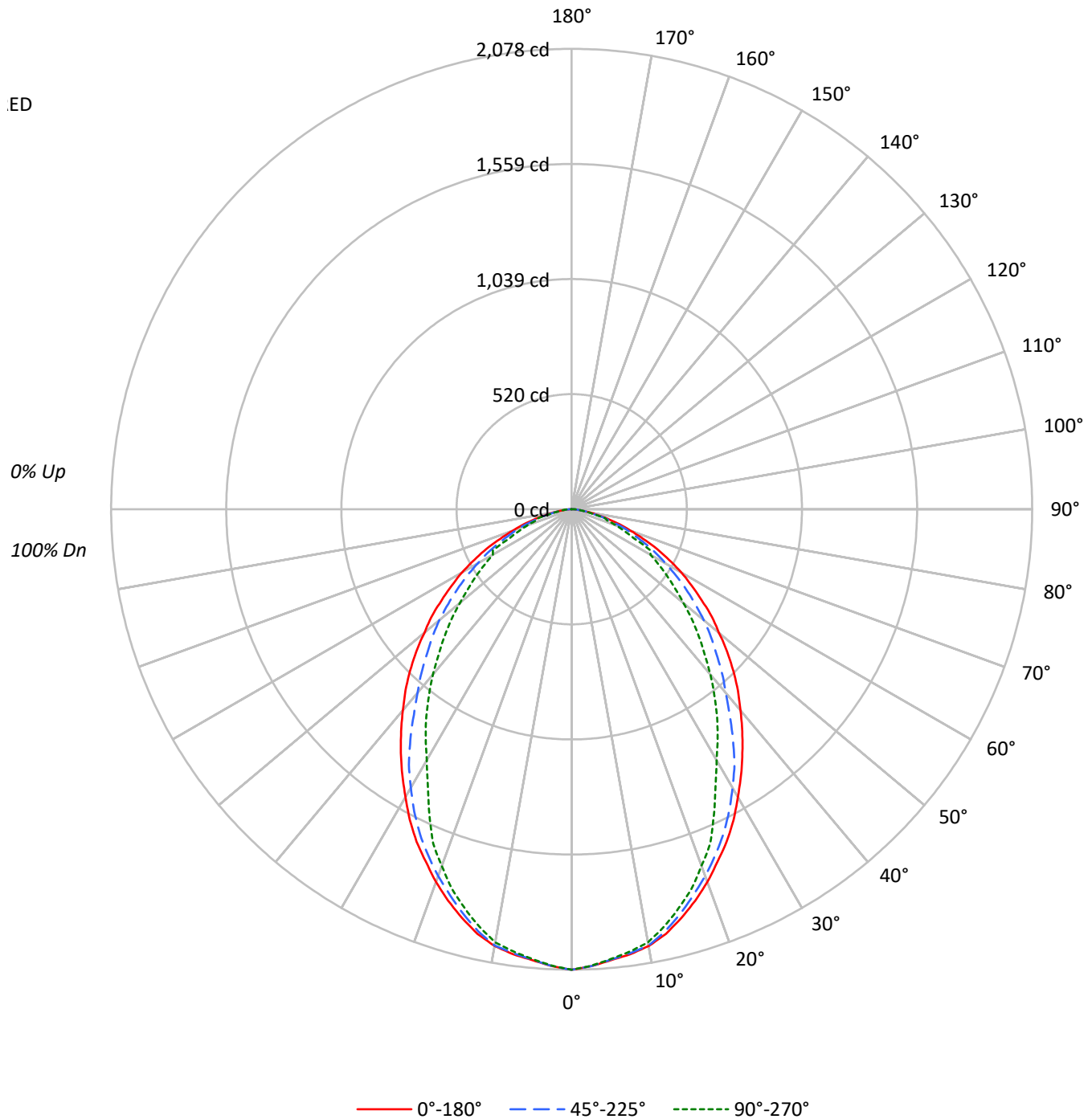
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2796	2796	2796
5°	2758	2755	2752
10°	2734	2731	2711
15°	2661	2634	2597
20°	2563	2522	2453
25°	2458	2404	2254
30°	2329	2255	2031
35°	2206	2084	1879
40°	2080	1899	1709
45°	1961	1756	1545
50°	1816	1630	1378
55°	1680	1477	1234
60°	1539	1319	1106
65°	1354	1155	979
70°	1115	1011	832
75°	887	775	812
80°	596	559	521
85°	371	445	519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1961 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.5	4.7
10°-20°	530.9	13.0
20°-30°	735.0	18.0
30°-40°	783.8	19.2
40°-50°	715.0	17.5
50°-60°	560.2	13.7
60°-70°	365.1	8.9
70°-80°	161.8	4.0
80°-90°	34.7	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°	1459.4	35.8
0°-40°	2243.2	55.0
0°-60°	3518.4	86.2
0°-90°	4080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4080.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2078	2078	2078	2078	2078	
5°	2042	2040	2040	2038	2038	194
15°	1910	1910	1891	1872	1864	537
25°	1655	1646	1619	1562	1518	760
35°	1343	1334	1269	1172	1144	840
45°	1031	1009	923	846	812	794
55°	716	694	630	555	526	642
65°	425	401	363	370	308	419
75°	171	159	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2078.3	2078.3	2078.3	2078.3	2078.3
2.5°	2063.9	2063.9	2063.9	2061.5	2061.5
5°	2042.3	2039.9	2039.9	2037.5	2037.5
7.5°	2025.4	2023.0	2020.6	2018.2	2013.4
10°	2001.4	2001.4	1999.0	1987.0	1984.6
12.5°	1963.0	1960.6	1951.0	1934.1	1929.3
15°	1910.1	1910.1	1890.9	1871.7	1864.5
17.5°	1852.4	1850.0	1826.0	1806.8	1797.2
20°	1790.0	1785.2	1761.1	1729.9	1713.1
22.5°	1720.3	1720.3	1691.5	1650.6	1633.8
25°	1655.4	1645.8	1619.4	1561.7	1518.5
27.5°	1580.9	1566.5	1537.7	1456.0	1405.6
30°	1499.3	1492.0	1451.2	1345.5	1307.0
32.5°	1422.4	1410.4	1367.1	1256.6	1225.4
35°	1343.1	1333.5	1268.6	1172.5	1143.7
37.5°	1263.8	1251.8	1170.1	1093.2	1057.2
40°	1184.5	1170.1	1081.2	1011.5	973.1
42.5°	1110.0	1090.8	1004.3	929.8	886.6
45°	1030.7	1009.1	922.6	845.7	812.1
47.5°	951.5	932.2	852.9	773.7	735.2
50°	867.4	850.5	778.5	699.2	658.3
52.5°	797.7	771.3	701.6	622.3	588.7
55°	716.0	694.4	629.5	555.0	526.2
57.5°	641.5	619.9	559.8	490.1	466.1
60°	571.8	540.6	490.1	430.1	410.9
62.5°	494.9	470.9	427.7	377.2	401.2
65°	425.3	401.2	362.8	370.0	307.5
67.5°	348.4	336.4	302.7	269.1	259.5
70°	283.5	269.1	257.1	221.0	211.4
72.5°	225.8	211.4	194.6	175.4	168.2
75°	170.6	158.6	149.0	141.8	156.2
77.5°	117.7	112.9	105.7	98.5	96.1
80°	76.9	74.5	72.1	69.7	67.3
82.5°	45.7	45.7	45.7	45.7	45.7
85°	24.0	26.4	28.8	31.2	33.6
87.5°	14.4	14.4	16.8	19.2	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)