

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: P561659

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561659
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-LD4-2LO-50-UNV-80-94-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5107.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

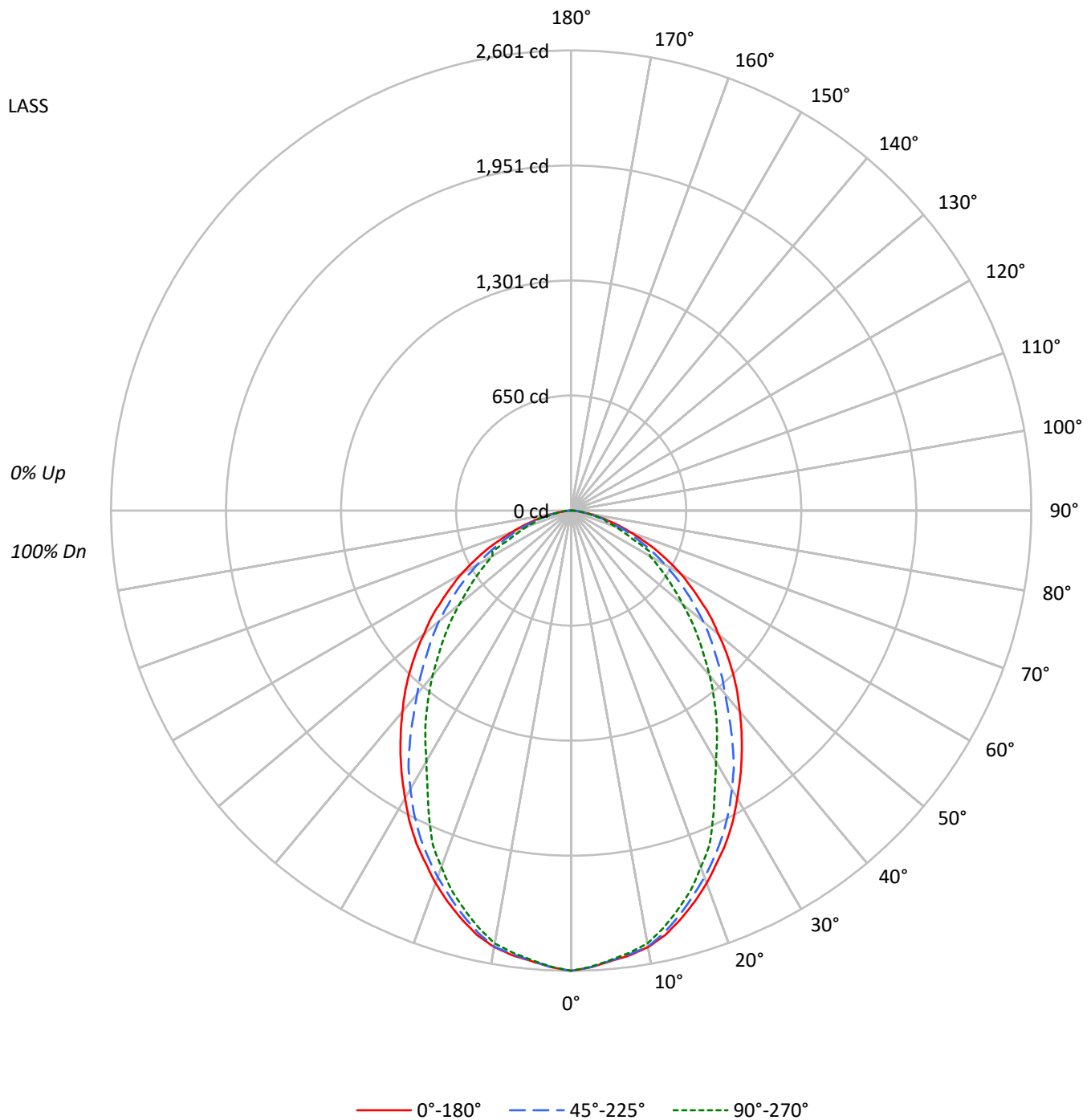
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7000	7000	7000
5°	6905	6897	6889
10°	6845	6837	6788
15°	6661	6594	6502
20°	6416	6313	6141
25°	6152	6019	5643
30°	5831	5644	5084
35°	5523	5216	4703
40°	5208	4754	4279
45°	4910	4395	3868
50°	4545	4079	3450
55°	4205	3696	3090
60°	3852	3302	2768
65°	3389	2891	2451
70°	2792	2532	2083
75°	2220	1939	2033
80°	1491	1398	1305
85°	929	1115	1300

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4910 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.2	4.7
10°-20°	664.6	13.0
20°-30°	920.1	18.0
30°-40°	981.1	19.2
40°-50°	895.0	17.5
50°-60°	701.2	13.7
60°-70°	457.0	8.9
70°-80°	202.5	4.0
80°-90°	43.5	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°	1826.8	35.8
0°-40°	2807.9	55.0
0°-60°	4404.1	86.2
0°-90°	5107.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5107.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2601	2601	2601	2601	2601	
5°	2556	2553	2553	2550	2550	243
15°	2391	2391	2367	2343	2334	672
25°	2072	2060	2027	1955	1901	951
35°	1681	1669	1588	1468	1432	1051
45°	1290	1263	1155	1059	1016	994
55°	896	869	788	695	659	804
65°	532	502	454	463	385	525
75°	214	198	186	177	196	229
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2601.4	2601.4	2601.4	2601.4	2601.4
2.5°	2583.4	2583.4	2583.4	2580.4	2580.4
5°	2556.3	2553.3	2553.3	2550.3	2550.3
7.5°	2535.3	2532.3	2529.3	2526.3	2520.2
10°	2505.2	2505.2	2502.2	2487.2	2484.1
12.5°	2457.1	2454.1	2442.0	2421.0	2415.0
15°	2390.9	2390.9	2366.9	2342.8	2333.8
17.5°	2318.7	2315.7	2285.7	2261.6	2249.6
20°	2240.5	2234.5	2204.5	2165.4	2144.3
22.5°	2153.3	2153.3	2117.2	2066.1	2045.1
25°	2072.1	2060.1	2027.0	1954.8	1900.7
27.5°	1978.9	1960.9	1924.8	1822.5	1759.4
30°	1876.6	1867.6	1816.5	1684.2	1636.0
32.5°	1780.4	1765.4	1711.2	1572.9	1533.8
35°	1681.2	1669.1	1587.9	1467.6	1431.5
37.5°	1581.9	1566.9	1464.6	1368.4	1323.3
40°	1482.7	1464.6	1353.3	1266.1	1218.0
42.5°	1389.4	1365.4	1257.1	1163.9	1109.7
45°	1290.2	1263.1	1154.9	1058.6	1016.5
47.5°	1190.9	1166.9	1067.6	968.4	920.3
50°	1085.7	1064.6	974.4	875.2	824.0
52.5°	998.5	965.4	878.2	778.9	736.8
55°	896.2	869.2	787.9	694.7	658.6
57.5°	803.0	775.9	700.7	613.5	583.4
60°	715.8	676.7	613.5	538.3	514.3
62.5°	619.5	589.5	535.3	472.2	502.2
65°	532.3	502.2	454.1	463.1	385.0
67.5°	436.1	421.0	378.9	336.8	324.8
70°	354.9	336.8	321.8	276.7	264.7
72.5°	282.7	264.7	243.6	219.5	210.5
75°	213.5	198.5	186.5	177.4	195.5
77.5°	147.4	141.3	132.3	123.3	120.3
80°	96.2	93.2	90.2	87.2	84.2
82.5°	57.1	57.1	57.1	57.1	57.1
85°	30.1	33.1	36.1	39.1	42.1
87.5°	18.0	18.0	21.1	24.1	27.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)