

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: P560931

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560931
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-50-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4110.0 lumens
Efficiency: N/A
Efficacy: 95.1 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

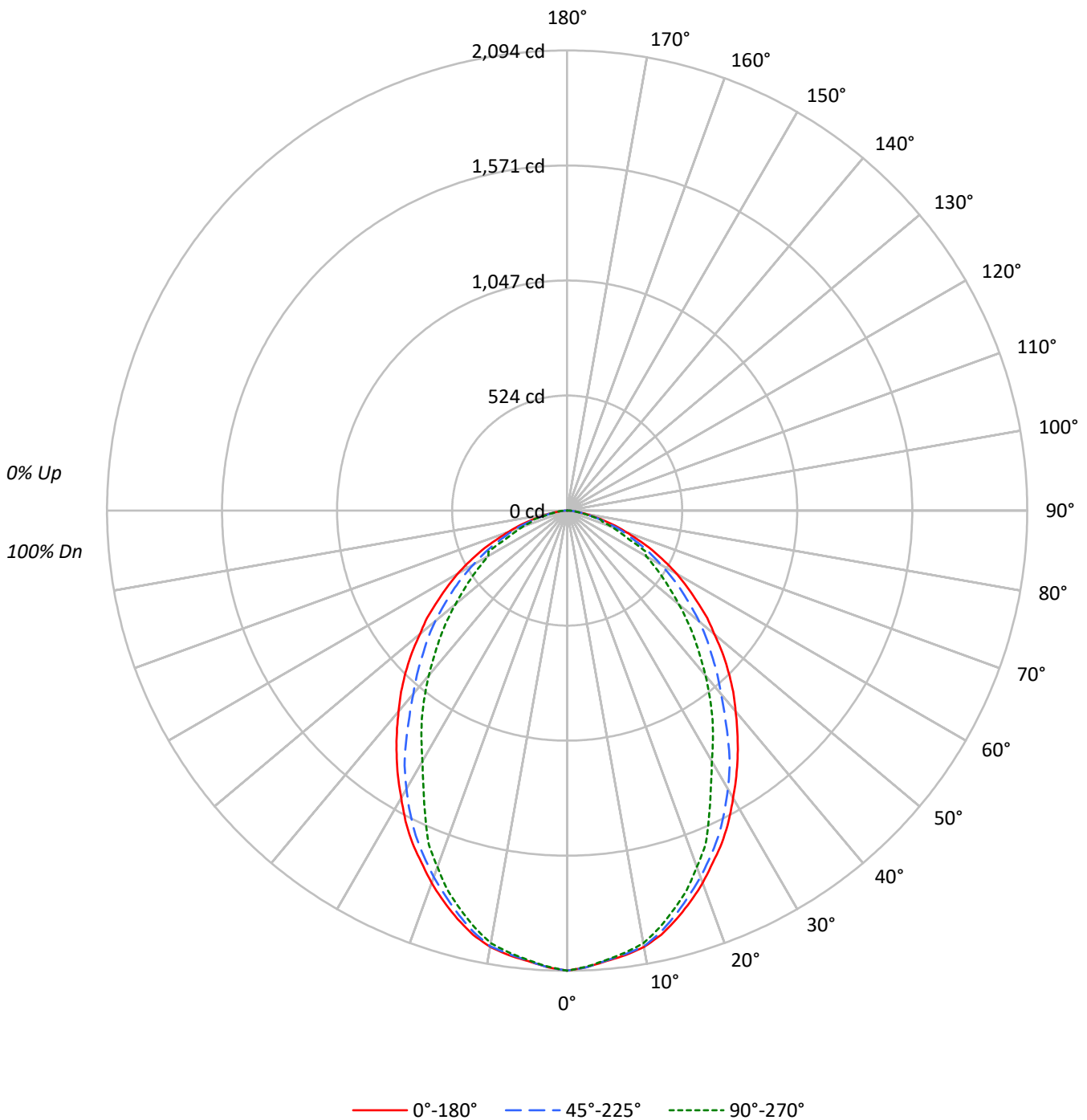
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
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°	5634	5634	5634
5°	5557	5551	5544
10°	5509	5502	5463
15°	5361	5307	5232
20°	5164	5080	4942
25°	4951	4844	4542
30°	4693	4543	4091
35°	4445	4198	3785
40°	4192	3826	3443
45°	3951	3537	3113
50°	3658	3283	2776
55°	3384	2975	2487
60°	3100	2657	2228
65°	2728	2327	1973
70°	2247	2038	1676
75°	1786	1561	1635
80°	1201	1125	1051
85°	747	895	1047

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3951 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.9	4.7
10°-20°	534.8	13.0
20°-30°	740.5	18.0
30°-40°	789.5	19.2
40°-50°	720.3	17.5
50°-60°	564.3	13.7
60°-70°	367.8	8.9
70°-80°	162.9	4.0
80°-90°	35.0	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°	1470.2	35.8
0°-40°	2259.7	55.0
0°-60°	3544.3	86.2
0°-90°	4110.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4110.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2094	2094	2094	2094	2094	
5°	2057	2055	2055	2052	2052	195
15°	1924	1924	1905	1885	1878	541
25°	1668	1658	1631	1573	1530	766
35°	1353	1343	1278	1181	1152	846
45°	1038	1016	929	852	818	800
55°	721	700	634	559	530	647
65°	428	404	366	373	310	422
75°	172	160	150	143	157	184
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2093.6	2093.6	2093.6	2093.6	2093.6
2.5°	2079.1	2079.1	2079.1	2076.6	2076.6
5°	2057.3	2054.9	2054.9	2052.4	2052.4
7.5°	2040.3	2037.9	2035.5	2033.1	2028.2
10°	2016.1	2016.1	2013.7	2001.6	1999.2
12.5°	1977.4	1975.0	1965.3	1948.4	1943.5
15°	1924.2	1924.2	1904.8	1885.4	1878.2
17.5°	1866.1	1863.6	1839.4	1820.1	1810.4
20°	1803.1	1798.3	1774.1	1742.6	1725.7
22.5°	1733.0	1733.0	1703.9	1662.8	1645.8
25°	1667.6	1657.9	1631.3	1573.2	1529.6
27.5°	1592.6	1578.1	1549.0	1466.7	1415.9
30°	1510.3	1503.0	1461.9	1355.4	1316.7
32.5°	1432.8	1420.7	1377.2	1265.8	1234.4
35°	1353.0	1343.3	1277.9	1181.1	1152.1
37.5°	1273.1	1261.0	1178.7	1101.2	1064.9
40°	1193.2	1178.7	1089.1	1019.0	980.2
42.5°	1118.2	1098.8	1011.7	936.7	893.1
45°	1038.3	1016.5	929.4	852.0	818.1
47.5°	958.4	939.1	859.2	779.3	740.6
50°	873.7	856.8	784.2	704.3	663.2
52.5°	803.5	776.9	706.7	626.9	593.0
55°	721.3	699.5	634.1	559.1	530.1
57.5°	646.2	624.4	563.9	493.7	469.5
60°	576.0	544.6	493.7	433.2	413.9
62.5°	498.6	474.4	430.8	380.0	404.2
65°	428.4	404.2	365.5	372.7	309.8
67.5°	350.9	338.8	305.0	271.1	261.4
70°	285.6	271.1	259.0	222.7	213.0
72.5°	227.5	213.0	196.0	176.7	169.4
75°	171.8	159.7	150.1	142.8	157.3
77.5°	118.6	113.8	106.5	99.2	96.8
80°	77.5	75.0	72.6	70.2	67.8
82.5°	46.0	46.0	46.0	46.0	46.0
85°	24.2	26.6	29.0	31.5	33.9
87.5°	14.5	14.5	16.9	19.4	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)