

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: P561670

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561670
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-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3948.0 lumens
Efficiency: N/A
Efficacy: 84.4 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

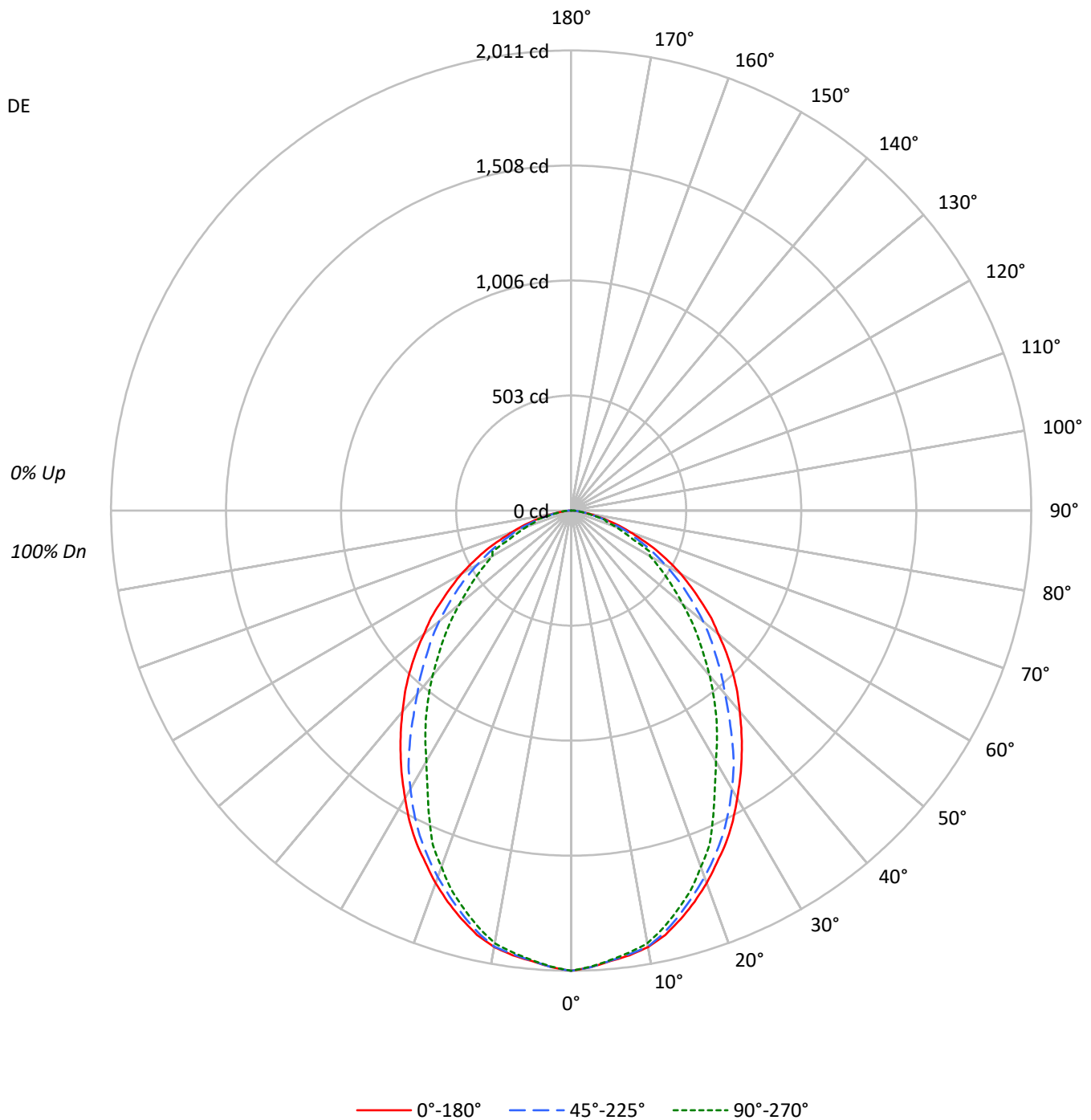
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5412	5412	5412
5°	5338	5332	5326
10°	5292	5285	5247
15°	5149	5097	5026
20°	4960	4880	4747
25°	4756	4653	4363
30°	4508	4364	3930
35°	4269	4033	3636
40°	4026	3675	3308
45°	3796	3398	2990
50°	3514	3154	2667
55°	3250	2858	2389
60°	2978	2553	2140
65°	2620	2236	1895
70°	2158	1958	1610
75°	1717	1498	1571
80°	1153	1080	1009
85°	716	861	1003

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3796 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.2	4.7
10°-20°	513.8	13.0
20°-30°	711.3	18.0
30°-40°	758.4	19.2
40°-50°	691.9	17.5
50°-60°	542.1	13.7
60°-70°	353.3	8.9
70°-80°	156.5	4.0
80°-90°	33.6	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°	1412.2	35.8
0°-40°	2170.6	55.0
0°-60°	3404.6	86.2
0°-90°	3948.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2011	2011	2011	2011	2011	
5°	1976	1974	1974	1972	1972	188
15°	1848	1848	1830	1811	1804	520
25°	1602	1593	1567	1511	1469	735
35°	1300	1290	1228	1135	1107	813
45°	997	976	893	818	786	768
55°	693	672	609	537	509	621
65°	412	388	351	358	298	406
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2011.1	2011.1	2011.1	2011.1	2011.1
2.5°	1997.1	1997.1	1997.1	1994.8	1994.8
5°	1976.2	1973.9	1973.9	1971.5	1971.5
7.5°	1959.9	1957.6	1955.3	1952.9	1948.3
10°	1936.7	1936.7	1934.3	1922.7	1920.4
12.5°	1899.5	1897.1	1887.8	1871.6	1866.9
15°	1848.3	1848.3	1829.7	1811.1	1804.1
17.5°	1792.5	1790.2	1766.9	1748.3	1739.0
20°	1732.1	1727.4	1704.2	1673.9	1657.7
22.5°	1664.6	1664.6	1636.7	1597.2	1580.9
25°	1601.9	1592.6	1567.0	1511.2	1469.4
27.5°	1529.8	1515.8	1488.0	1408.9	1360.1
30°	1450.8	1443.8	1404.3	1302.0	1264.8
32.5°	1376.4	1364.7	1322.9	1215.9	1185.7
35°	1299.6	1290.3	1227.6	1134.6	1106.7
37.5°	1222.9	1211.3	1132.2	1057.8	1023.0
40°	1146.2	1132.2	1046.2	978.8	941.6
42.5°	1074.1	1055.5	971.8	899.7	857.9
45°	997.4	976.5	892.8	818.4	785.8
47.5°	920.7	902.1	825.3	748.6	711.4
50°	839.3	823.0	753.3	676.6	637.0
52.5°	771.9	746.3	678.9	602.2	569.6
55°	692.8	671.9	609.1	537.1	509.2
57.5°	620.8	599.8	541.7	474.3	451.0
60°	553.3	523.1	474.3	416.2	397.6
62.5°	478.9	455.7	413.8	365.0	388.3
65°	411.5	388.3	351.1	358.0	297.6
67.5°	337.1	325.5	292.9	260.4	251.1
70°	274.3	260.4	248.8	213.9	204.6
72.5°	218.5	204.6	188.3	169.7	162.7
75°	165.1	153.4	144.1	137.2	151.1
77.5°	113.9	109.3	102.3	95.3	93.0
80°	74.4	72.1	69.7	67.4	65.1
82.5°	44.2	44.2	44.2	44.2	44.2
85°	23.2	25.6	27.9	30.2	32.5
87.5°	13.9	13.9	16.3	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)