

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: P561611

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561611
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-40-UNV-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4771.0 lumens
Efficiency: N/A
Efficacy: 101.9 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

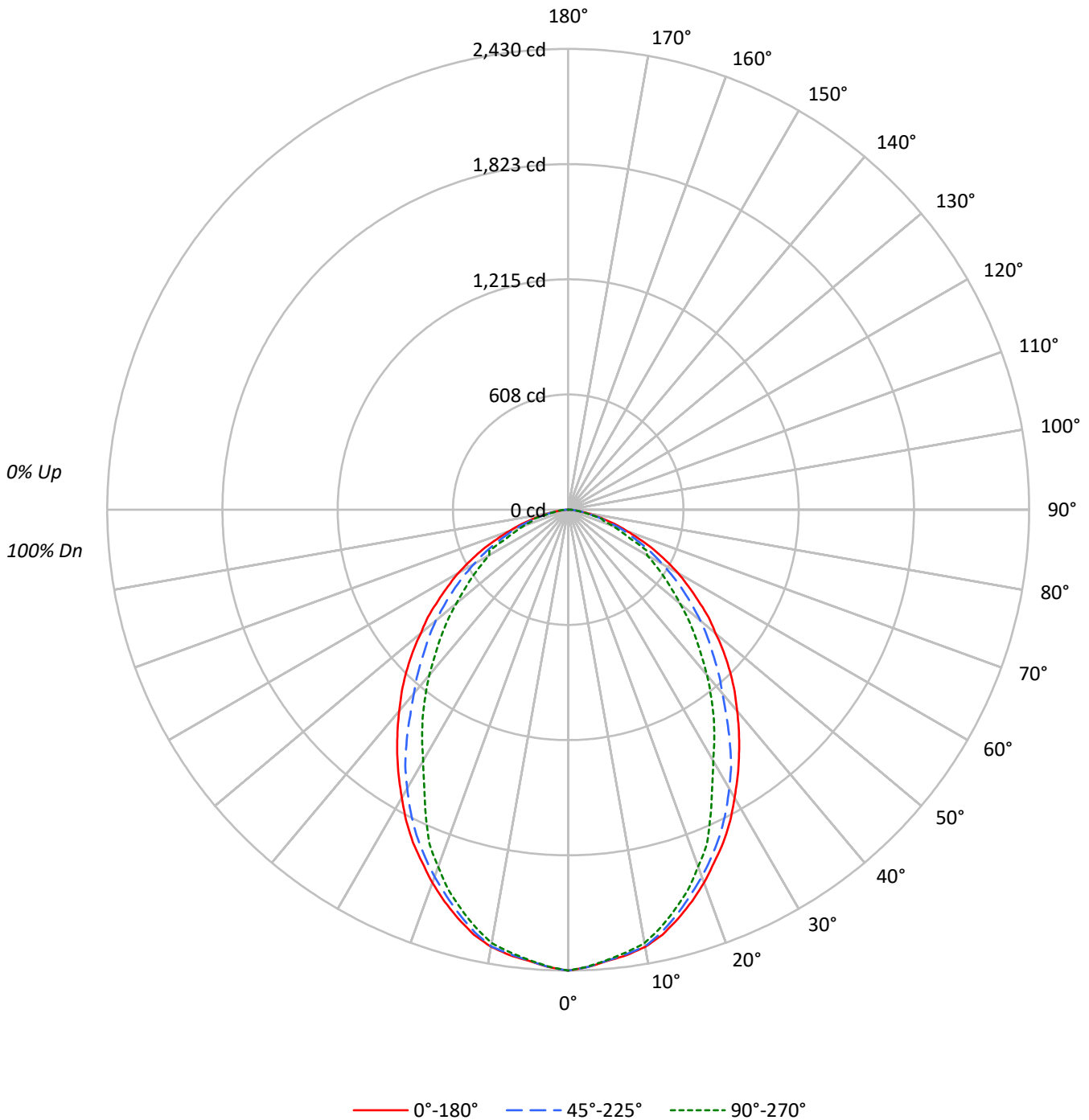
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6540	6540	6540
5°	6451	6443	6436
10°	6395	6387	6341
15°	6223	6160	6074
20°	5994	5897	5737
25°	5748	5623	5272
30°	5448	5273	4749
35°	5160	4873	4393
40°	4866	4441	3997
45°	4587	4106	3614
50°	4246	3811	3223
55°	3928	3453	2887
60°	3599	3085	2585
65°	3167	2701	2290
70°	2608	2365	1945
75°	2074	1811	1899
80°	1393	1306	1220
85°	868	1041	1213

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4587 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.2	4.7
10°-20°	620.9	13.0
20°-30°	859.5	18.0
30°-40°	916.5	19.2
40°-50°	836.1	17.5
50°-60°	655.1	13.7
60°-70°	426.9	8.9
70°-80°	189.2	4.0
80°-90°	40.6	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°	1706.6	35.8
0°-40°	2623.1	55.0
0°-60°	4114.3	86.2
0°-90°	4771.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4771.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2430	2430	2430	2430	2430	
5°	2388	2385	2385	2382	2382	227
15°	2234	2234	2211	2189	2180	628
25°	1936	1925	1894	1826	1776	889
35°	1571	1559	1484	1371	1337	982
45°	1205	1180	1079	989	950	928
55°	837	812	736	649	615	751
65°	497	469	424	433	360	490
75°	200	185	174	166	183	214
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2430.3	2430.3	2430.3	2430.3	2430.3
2.5°	2413.4	2413.4	2413.4	2410.6	2410.6
5°	2388.1	2385.3	2385.3	2382.5	2382.5
7.5°	2368.5	2365.7	2362.9	2360.0	2354.4
10°	2340.4	2340.4	2337.6	2323.5	2320.7
12.5°	2295.4	2292.6	2281.4	2261.7	2256.1
15°	2233.6	2233.6	2211.1	2188.7	2180.2
17.5°	2166.2	2163.4	2135.3	2112.8	2101.6
20°	2093.1	2087.5	2059.4	2022.9	2003.2
22.5°	2011.7	2011.7	1977.9	1930.2	1910.5
25°	1935.8	1924.6	1893.7	1826.2	1775.7
27.5°	1848.7	1831.8	1798.1	1702.6	1643.6
30°	1753.2	1744.7	1697.0	1573.4	1528.4
32.5°	1663.3	1649.2	1598.6	1469.4	1432.9
35°	1570.6	1559.3	1483.5	1371.1	1337.4
37.5°	1477.8	1463.8	1368.3	1278.4	1236.2
40°	1385.1	1368.3	1264.3	1182.8	1137.9
42.5°	1298.0	1275.5	1174.4	1087.3	1036.7
45°	1205.3	1180.0	1078.9	989.0	949.6
47.5°	1112.6	1090.1	997.4	904.7	859.7
50°	1014.3	994.6	910.3	817.6	769.8
52.5°	932.8	901.9	820.4	727.7	688.3
55°	837.3	812.0	736.1	649.0	615.3
57.5°	750.2	724.9	654.6	573.2	545.1
60°	668.7	632.2	573.2	502.9	480.4
62.5°	578.8	550.7	500.1	441.1	469.2
65°	497.3	469.2	424.2	432.7	359.6
67.5°	407.4	393.3	354.0	314.7	303.4
70°	331.5	314.7	300.6	258.5	247.2
72.5°	264.1	247.2	227.6	205.1	196.7
75°	199.5	185.4	174.2	165.8	182.6
77.5°	137.7	132.1	123.6	115.2	112.4
80°	89.9	87.1	84.3	81.5	78.7
82.5°	53.4	53.4	53.4	53.4	53.4
85°	28.1	30.9	33.7	36.5	39.3
87.5°	16.9	16.9	19.7	22.5	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)