

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: P561547

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561547
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4723.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

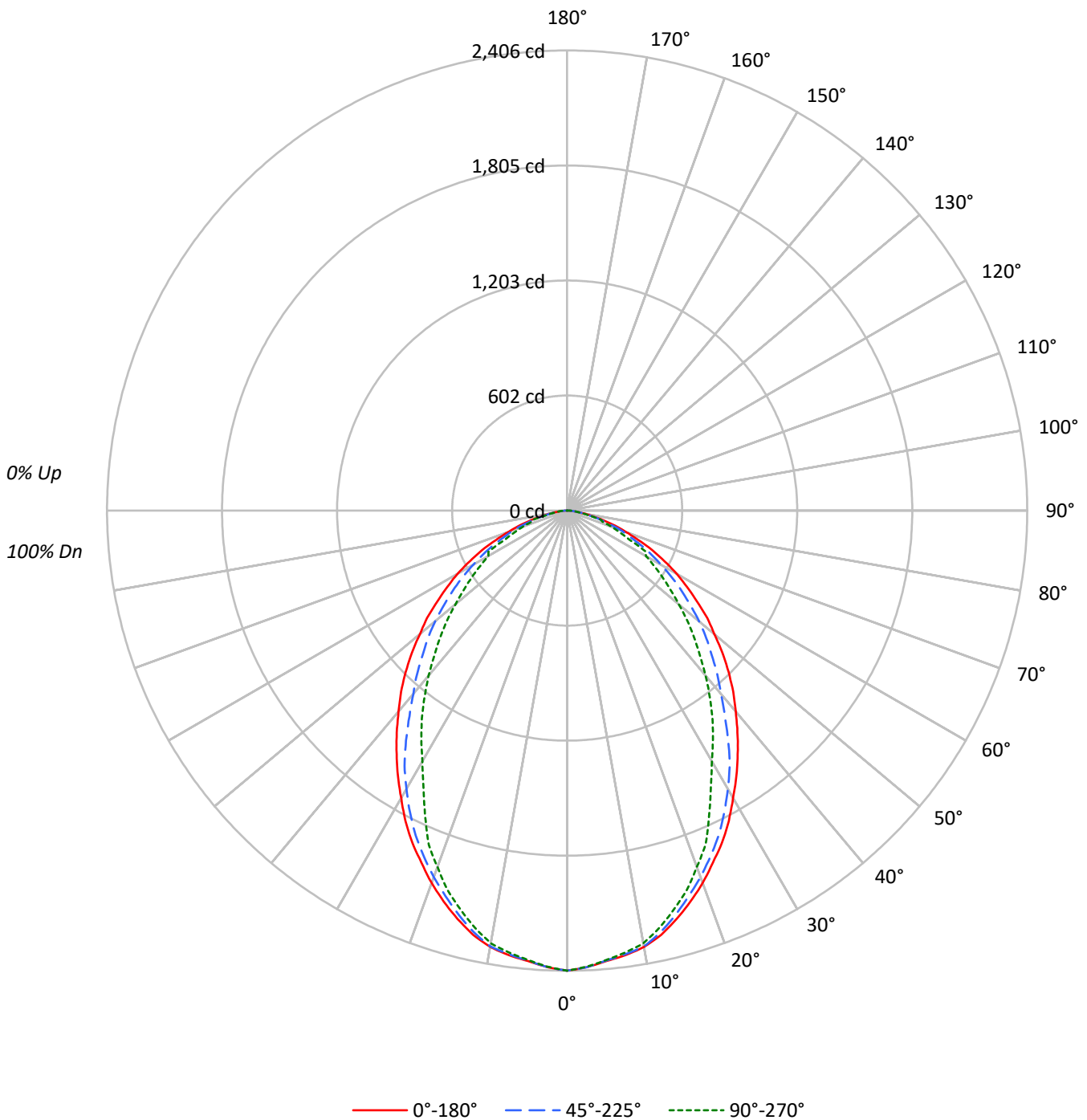
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6474	6474	6474
5°	6386	6378	6371
10°	6331	6323	6278
15°	6160	6098	6013
20°	5934	5838	5679
25°	5690	5566	5219
30°	5393	5220	4701
35°	5108	4824	4349
40°	4817	4397	3957
45°	4541	4064	3578
50°	4204	3772	3190
55°	3888	3419	2858
60°	3563	3054	2560
65°	3135	2674	2267
70°	2582	2341	1926
75°	2053	1792	1880
80°	1379	1292	1207
85°	858	1031	1201

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4541 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.9	4.7
10°-20°	614.6	13.0
20°-30°	850.9	18.0
30°-40°	907.3	19.2
40°-50°	827.7	17.5
50°-60°	648.5	13.7
60°-70°	422.6	8.9
70°-80°	187.2	4.0
80°-90°	40.2	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°	1689.4	35.8
0°-40°	2596.7	55.0
0°-60°	4072.9	86.2
0°-90°	4723.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4723.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2406	2406	2406	2406	2406	
5°	2364	2361	2361	2359	2359	224
15°	2211	2211	2189	2167	2158	622
25°	1916	1905	1875	1808	1758	880
35°	1555	1544	1468	1357	1324	972
45°	1193	1168	1068	979	940	919
55°	829	804	729	642	609	743
65°	492	464	420	428	356	485
75°	198	184	172	164	181	212
85°	28	31	33	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2405.8	2405.8	2405.8	2405.8	2405.8
2.5°	2389.1	2389.1	2389.1	2386.4	2386.4
5°	2364.1	2361.3	2361.3	2358.6	2358.6
7.5°	2344.6	2341.9	2339.1	2336.3	2330.7
10°	2316.8	2316.8	2314.0	2300.1	2297.4
12.5°	2272.3	2269.5	2258.4	2239.0	2233.4
15°	2211.1	2211.1	2188.9	2166.6	2158.3
17.5°	2144.4	2141.6	2113.8	2091.5	2080.4
20°	2072.1	2066.5	2038.7	2002.5	1983.1
22.5°	1991.4	1991.4	1958.0	1910.8	1891.3
25°	1916.3	1905.2	1874.6	1807.9	1757.8
27.5°	1830.1	1813.4	1780.0	1685.5	1627.1
30°	1735.5	1727.2	1679.9	1557.5	1513.0
32.5°	1646.5	1632.6	1582.6	1454.6	1418.5
35°	1554.8	1543.6	1468.5	1357.3	1323.9
37.5°	1463.0	1449.1	1354.5	1265.5	1223.8
40°	1371.2	1354.5	1251.6	1170.9	1126.4
42.5°	1285.0	1262.7	1162.6	1076.4	1026.3
45°	1193.2	1168.2	1068.0	979.0	940.1
47.5°	1101.4	1079.1	987.4	895.6	851.1
50°	1004.1	984.6	901.1	809.4	762.1
52.5°	923.4	892.8	812.1	720.4	681.4
55°	828.8	803.8	728.7	642.5	609.1
57.5°	742.6	717.6	648.0	567.4	539.6
60°	662.0	625.8	567.4	497.9	475.6
62.5°	572.9	545.1	495.1	436.7	464.5
65°	492.3	464.5	420.0	428.3	356.0
67.5°	403.3	389.4	350.4	311.5	300.4
70°	328.2	311.5	297.6	255.9	244.8
72.5°	261.4	244.8	225.3	203.0	194.7
75°	197.5	183.6	172.4	164.1	180.8
77.5°	136.3	130.7	122.4	114.0	111.3
80°	89.0	86.2	83.4	80.7	77.9
82.5°	52.8	52.8	52.8	52.8	52.8
85°	27.8	30.6	33.4	36.2	38.9
87.5°	16.7	16.7	19.5	22.3	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)