

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: P561637

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561637
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-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4865.0 lumens
Efficiency: N/A
Efficacy: 104.0 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

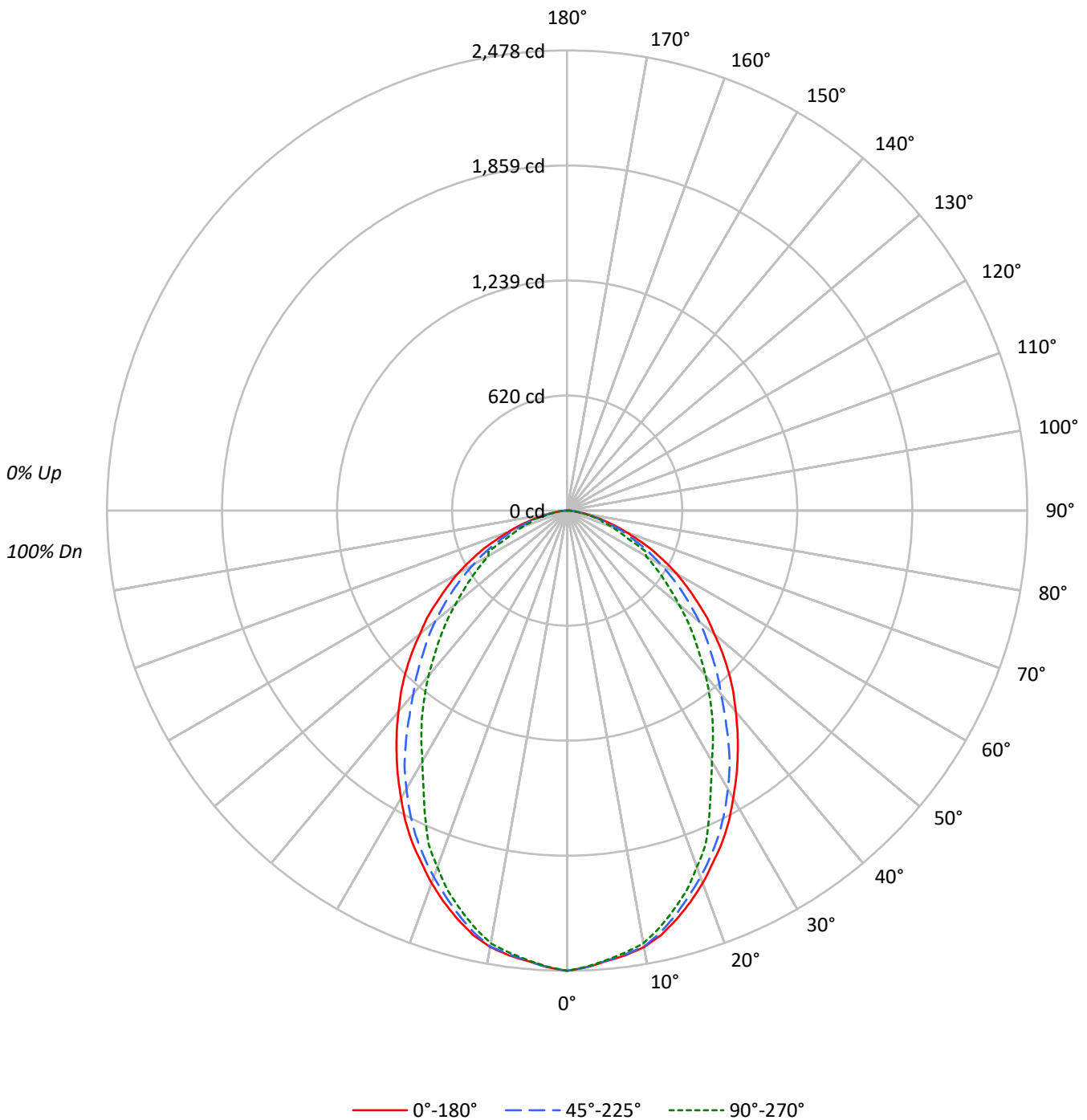
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6669	6669	6669
5°	6578	6570	6563
10°	6521	6513	6466
15°	6345	6281	6194
20°	6112	6014	5850
25°	5861	5733	5376
30°	5555	5377	4843
35°	5261	4969	4480
40°	4962	4529	4076
45°	4677	4187	3685
50°	4330	3886	3286
55°	4005	3521	2943
60°	3670	3145	2637
65°	3229	2755	2335
70°	2660	2412	1983
75°	2115	1847	1936
80°	1421	1331	1243
85°	883	1062	1238

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4677 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.7	4.7
10°-20°	633.1	13.0
20°-30°	876.5	18.0
30°-40°	934.6	19.2
40°-50°	852.6	17.5
50°-60°	667.9	13.7
60°-70°	435.3	8.9
70°-80°	192.9	4.0
80°-90°	41.4	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°	1740.2	35.8
0°-40°	2674.8	55.0
0°-60°	4195.4	86.2
0°-90°	4865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4865.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2478	2478	2478	2478	2478	
5°	2435	2432	2432	2430	2430	231
15°	2278	2278	2255	2232	2223	640
25°	1974	1962	1931	1862	1811	906
35°	1602	1590	1513	1398	1364	1001
45°	1229	1203	1100	1008	968	947
55°	854	828	751	662	627	766
65°	507	478	433	441	367	500
75°	203	189	178	169	186	218
85°	29	32	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2478.2	2478.2	2478.2	2478.2	2478.2
2.5°	2461.0	2461.0	2461.0	2458.1	2458.1
5°	2435.2	2432.3	2432.3	2429.5	2429.5
7.5°	2415.1	2412.3	2409.4	2406.5	2400.8
10°	2386.5	2386.5	2383.6	2369.3	2366.4
12.5°	2340.6	2337.8	2326.3	2306.3	2300.5
15°	2277.6	2277.6	2254.7	2231.8	2223.2
17.5°	2208.9	2206.0	2177.3	2154.4	2143.0
20°	2134.4	2128.6	2100.0	2062.8	2042.7
22.5°	2051.3	2051.3	2016.9	1968.2	1948.2
25°	1973.9	1962.5	1931.0	1862.2	1810.6
27.5°	1885.1	1867.9	1833.6	1736.1	1676.0
30°	1787.7	1779.1	1730.4	1604.4	1558.5
32.5°	1696.0	1681.7	1630.1	1498.4	1461.1
35°	1601.5	1590.0	1512.7	1398.1	1363.7
37.5°	1507.0	1492.6	1395.2	1303.5	1260.6
40°	1412.4	1395.2	1289.2	1206.1	1160.3
42.5°	1323.6	1300.7	1197.5	1108.7	1057.2
45°	1229.1	1203.3	1100.1	1008.5	968.3
47.5°	1134.5	1111.6	1017.1	922.5	876.7
50°	1034.2	1014.2	928.2	833.7	785.0
52.5°	951.2	919.6	836.6	742.0	701.9
55°	853.7	828.0	750.6	661.8	627.4
57.5°	764.9	739.2	667.5	584.4	555.8
60°	681.9	644.6	584.4	512.8	489.9
62.5°	590.2	561.5	510.0	449.8	478.4
65°	507.1	478.4	432.6	441.2	366.7
67.5°	415.4	401.1	361.0	320.9	309.4
70°	338.1	320.9	306.5	263.6	252.1
72.5°	269.3	252.1	232.1	209.1	200.5
75°	203.4	189.1	177.6	169.0	186.2
77.5°	140.4	134.7	126.1	117.5	114.6
80°	91.7	88.8	85.9	83.1	80.2
82.5°	54.4	54.4	54.4	54.4	54.4
85°	28.6	31.5	34.4	37.2	40.1
87.5°	17.2	17.2	20.1	22.9	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)