

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: P562856

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562856
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-24-4-LD4-2LO-50-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4406.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

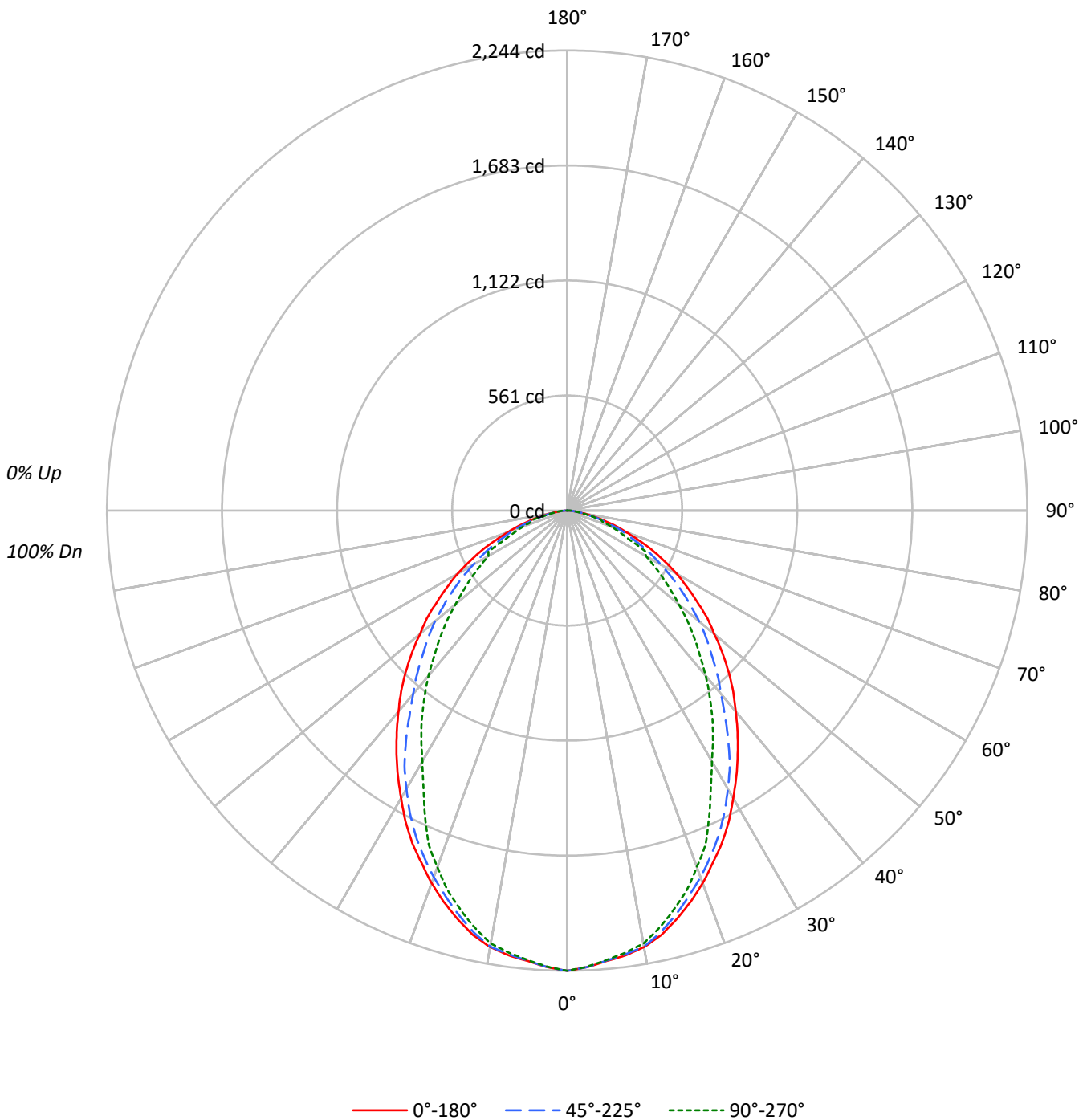
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3020	3020	3020
5°	2979	2975	2972
10°	2953	2949	2928
15°	2873	2844	2805
20°	2768	2723	2649
25°	2654	2596	2434
30°	2515	2435	2193
35°	2382	2250	2029
40°	2247	2051	1846
45°	2118	1896	1669
50°	1961	1760	1488
55°	1814	1595	1333
60°	1662	1424	1194
65°	1462	1247	1057
70°	1205	1092	898
75°	958	836	877
80°	643	603	563
85°	400	480	560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2118 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.9	4.7
10°-20°	573.4	13.0
20°-30°	793.8	18.0
30°-40°	846.4	19.2
40°-50°	772.2	17.5
50°-60°	604.9	13.7
60°-70°	394.3	8.9
70°-80°	174.7	4.0
80°-90°	37.5	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°	1576.1	35.8
0°-40°	2422.5	55.0
0°-60°	3799.6	86.2
0°-90°	4406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4406.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2244	2244	2244	2244	2244	
5°	2205	2203	2203	2200	2200	209
15°	2063	2063	2042	2021	2013	580
25°	1788	1777	1749	1686	1640	821
35°	1450	1440	1370	1266	1235	907
45°	1113	1090	996	913	877	857
55°	773	750	680	599	568	694
65°	459	433	392	400	332	453
75°	184	171	161	153	169	197
85°	26	28	31	34	36	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2244.4	2244.4	2244.4	2244.4	2244.4
2.5°	2228.8	2228.8	2228.8	2226.2	2226.2
5°	2205.4	2202.8	2202.8	2200.2	2200.2
7.5°	2187.3	2184.7	2182.1	2179.5	2174.3
10°	2161.3	2161.3	2158.7	2145.8	2143.2
12.5°	2119.8	2117.2	2106.8	2088.7	2083.5
15°	2062.7	2062.7	2042.0	2021.2	2013.4
17.5°	2000.5	1997.9	1971.9	1951.2	1940.8
20°	1933.0	1927.8	1901.9	1868.1	1850.0
22.5°	1857.8	1857.8	1826.6	1782.5	1764.4
25°	1787.7	1777.3	1748.8	1686.5	1639.8
27.5°	1707.3	1691.7	1660.6	1572.3	1517.9
30°	1619.1	1611.3	1567.2	1453.0	1411.5
32.5°	1536.0	1523.0	1476.3	1357.0	1323.3
35°	1450.4	1440.0	1370.0	1266.2	1235.0
37.5°	1364.8	1351.8	1263.6	1180.6	1141.6
40°	1279.2	1263.6	1167.6	1092.3	1050.8
42.5°	1198.7	1178.0	1084.6	1004.1	957.4
45°	1113.1	1089.7	996.3	913.3	877.0
47.5°	1027.5	1006.7	921.1	835.5	794.0
50°	936.7	918.5	840.7	755.0	710.9
52.5°	861.4	832.9	757.6	672.0	635.7
55°	773.2	749.8	679.8	599.4	568.2
57.5°	692.8	669.4	604.5	529.3	503.4
60°	617.5	583.8	529.3	464.4	443.7
62.5°	534.5	508.5	461.8	407.4	433.3
65°	459.3	433.3	391.8	399.6	332.1
67.5°	376.2	363.2	326.9	290.6	280.2
70°	306.2	290.6	277.6	238.7	228.3
72.5°	243.9	228.3	210.2	189.4	181.6
75°	184.2	171.2	160.9	153.1	168.7
77.5°	127.1	121.9	114.2	106.4	103.8
80°	83.0	80.4	77.8	75.2	72.6
82.5°	49.3	49.3	49.3	49.3	49.3
85°	25.9	28.5	31.1	33.7	36.3
87.5°	15.6	15.6	18.2	20.8	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)