

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: P561577

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561577
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-93-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4197.0 lumens
Efficiency: N/A
Efficacy: 89.7 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

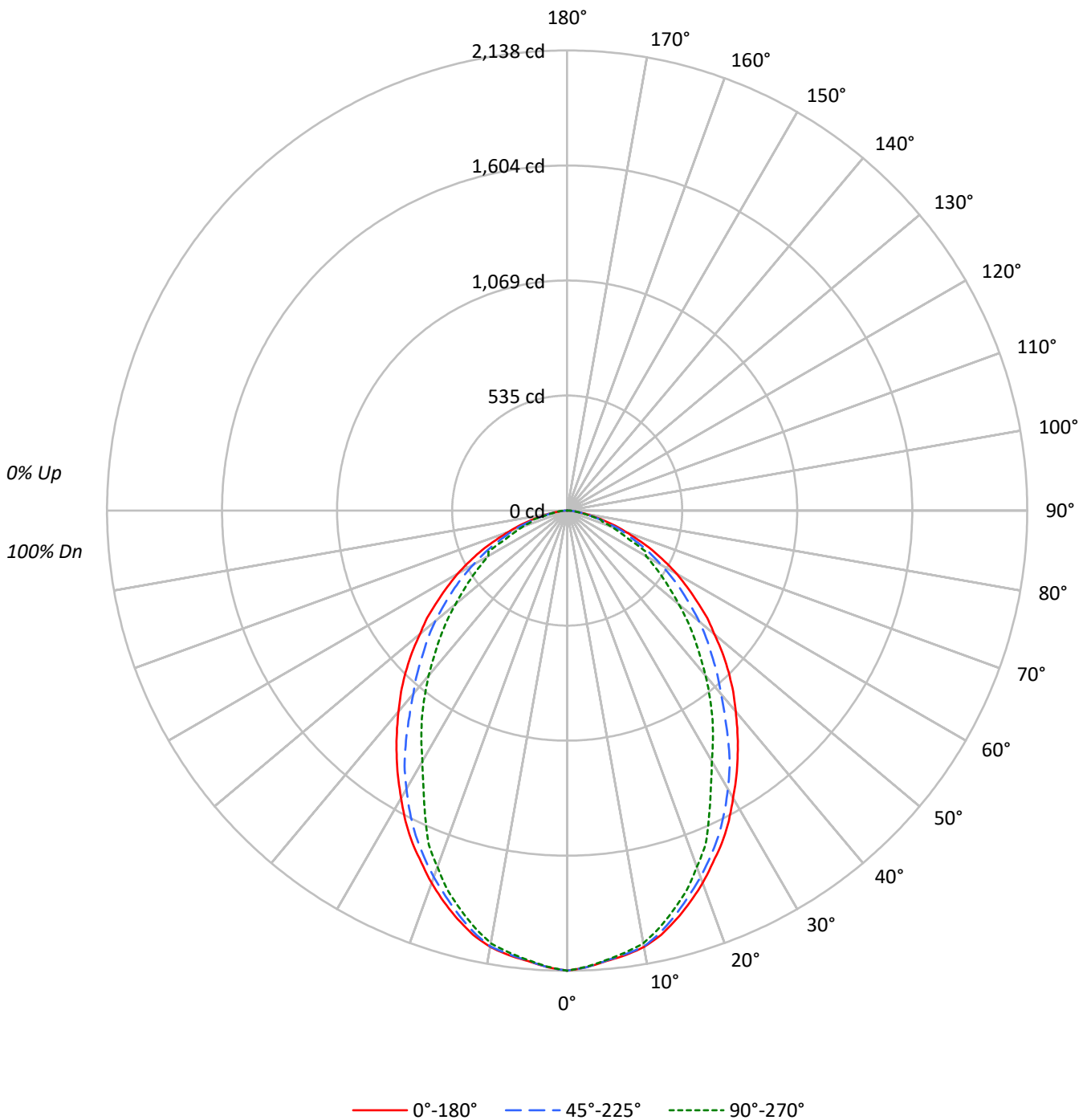
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	5753	5753	5753
5°	5675	5668	5662
10°	5626	5619	5578
15°	5474	5419	5343
20°	5273	5188	5046
25°	5056	4946	4638
30°	4792	4639	4178
35°	4539	4287	3865
40°	4280	3907	3516
45°	4035	3612	3179
50°	3735	3352	2835
55°	3455	3038	2540
60°	3166	2714	2274
65°	2786	2376	2015
70°	2294	2081	1711
75°	1825	1593	1671
80°	1226	1148	1072
85°	763	917	1068

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4035 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.0	4.7
10°-20°	546.2	13.0
20°-30°	756.1	18.0
30°-40°	806.3	19.2
40°-50°	735.5	17.5
50°-60°	576.2	13.7
60°-70°	375.5	8.9
70°-80°	166.4	4.0
80°-90°	35.7	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°	1501.3	35.8
0°-40°	2307.6	55.0
0°-60°	3619.3	86.2
0°-90°	4197.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4197.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2138	2138	2138	2138	2138	
5°	2101	2098	2098	2096	2096	199
15°	1965	1965	1945	1925	1918	552
25°	1703	1693	1666	1606	1562	782
35°	1382	1372	1305	1206	1176	864
45°	1060	1038	949	870	835	817
55°	736	714	648	571	541	661
65°	438	413	373	381	316	431
75°	176	163	153	146	161	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2137.9	2137.9	2137.9	2137.9	2137.9
2.5°	2123.1	2123.1	2123.1	2120.6	2120.6
5°	2100.8	2098.4	2098.4	2095.9	2095.9
7.5°	2083.5	2081.0	2078.6	2076.1	2071.2
10°	2058.8	2058.8	2056.3	2044.0	2041.5
12.5°	2019.3	2016.8	2006.9	1989.6	1984.7
15°	1964.9	1964.9	1945.1	1925.3	1917.9
17.5°	1905.6	1903.1	1878.4	1858.6	1848.7
20°	1841.3	1836.4	1811.7	1779.5	1762.2
22.5°	1769.6	1769.6	1740.0	1698.0	1680.7
25°	1702.9	1693.0	1665.8	1606.5	1562.0
27.5°	1626.3	1611.5	1581.8	1497.8	1445.9
30°	1542.3	1534.8	1492.8	1384.1	1344.5
32.5°	1463.2	1450.8	1406.3	1292.6	1260.5
35°	1381.6	1371.7	1305.0	1206.1	1176.5
37.5°	1300.0	1287.7	1203.6	1124.6	1087.5
40°	1218.5	1203.6	1112.2	1040.5	1001.0
42.5°	1141.9	1122.1	1033.1	956.5	912.0
45°	1060.3	1038.1	949.1	870.0	835.4
47.5°	978.7	959.0	877.4	795.8	756.3
50°	892.2	874.9	800.8	719.2	677.2
52.5°	820.6	793.4	721.7	640.1	605.5
55°	736.5	714.3	647.5	570.9	541.3
57.5°	659.9	637.7	575.9	504.2	479.5
60°	588.2	556.1	504.2	442.4	422.6
62.5°	509.1	484.4	439.9	388.0	412.7
65°	437.5	412.7	373.2	380.6	316.4
67.5°	358.4	346.0	311.4	276.8	266.9
70°	291.6	276.8	264.5	227.4	217.5
72.5°	232.3	217.5	200.2	180.4	173.0
75°	175.5	163.1	153.2	145.8	160.7
77.5°	121.1	116.2	108.7	101.3	98.9
80°	79.1	76.6	74.1	71.7	69.2
82.5°	47.0	47.0	47.0	47.0	47.0
85°	24.7	27.2	29.7	32.1	34.6
87.5°	14.8	14.8	17.3	19.8	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)