

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: P561564

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561564
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-82-96-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3826.0 lumens
Efficiency: N/A
Efficacy: 81.8 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

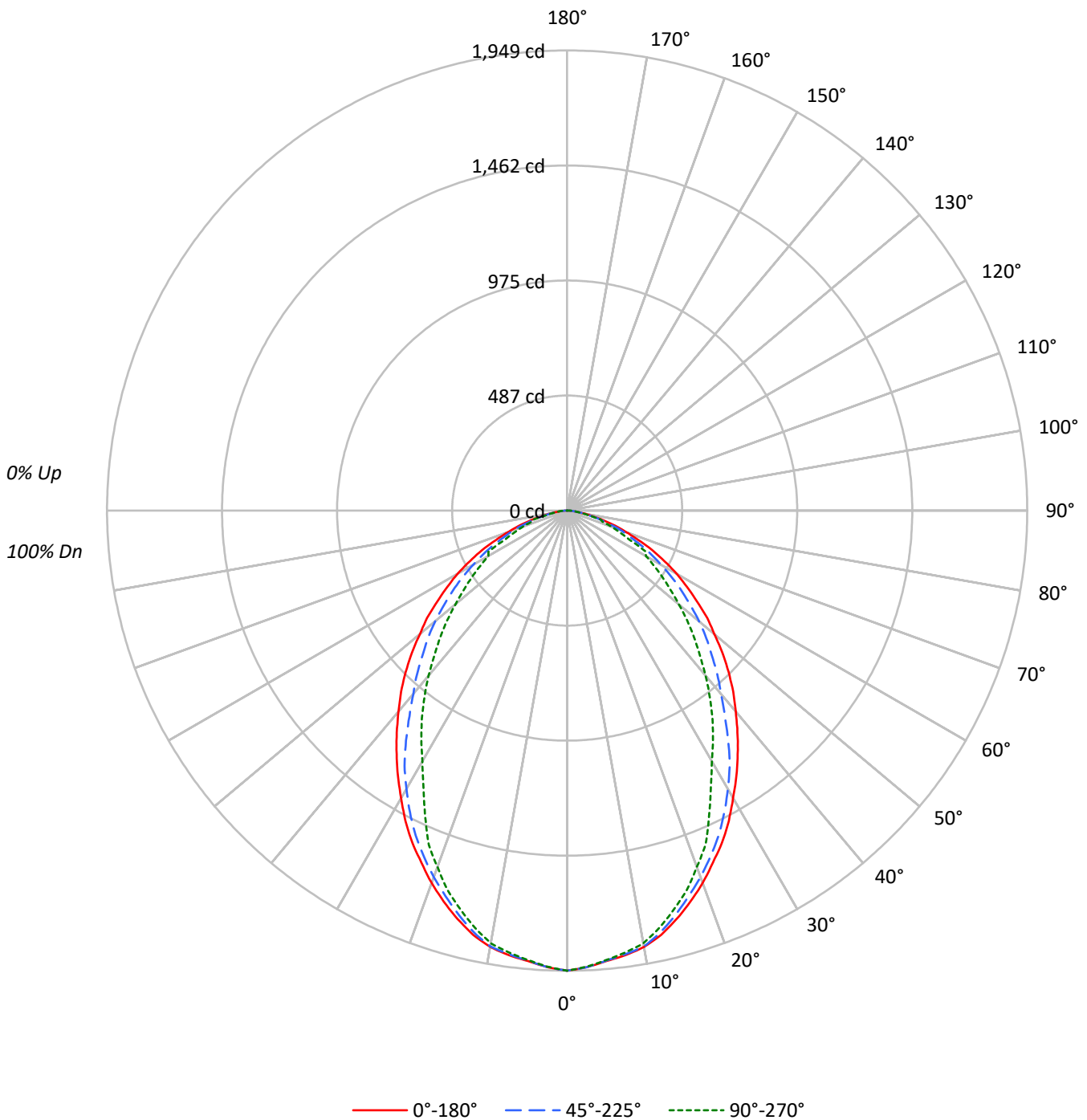
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	5244	5244	5244
5°	5173	5167	5161
10°	5128	5122	5085
15°	4990	4940	4871
20°	4807	4729	4600
25°	4609	4509	4228
30°	4369	4229	3809
35°	4138	3908	3523
40°	3902	3562	3205
45°	3679	3293	2898
50°	3405	3056	2584
55°	3150	2769	2315
60°	2886	2474	2074
65°	2539	2166	1836
70°	2092	1897	1560
75°	1664	1452	1523
80°	1117	1048	978
85°	695	834	973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3679 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.4	4.7
10°-20°	497.9	13.0
20°-30°	689.3	18.0
30°-40°	735.0	19.2
40°-50°	670.5	17.5
50°-60°	525.3	13.7
60°-70°	342.4	8.9
70°-80°	151.7	4.0
80°-90°	32.6	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°	1368.6	35.8
0°-40°	2103.6	55.0
0°-60°	3299.4	86.2
0°-90°	3826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3826.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1949	1949	1949	1949	1949	
5°	1915	1913	1913	1911	1911	182
15°	1791	1791	1773	1755	1748	504
25°	1552	1543	1519	1464	1424	713
35°	1260	1250	1190	1100	1072	787
45°	967	946	865	793	762	745
55°	671	651	590	520	493	602
65°	399	376	340	347	288	393
75°	160	149	140	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1948.9	1948.9	1948.9	1948.9	1948.9
2.5°	1935.4	1935.4	1935.4	1933.1	1933.1
5°	1915.1	1912.9	1912.9	1910.6	1910.6
7.5°	1899.3	1897.1	1894.8	1892.6	1888.1
10°	1876.8	1876.8	1874.6	1863.3	1861.0
12.5°	1840.8	1838.5	1829.5	1813.7	1809.2
15°	1791.2	1791.2	1773.2	1755.1	1748.4
17.5°	1737.1	1734.9	1712.3	1694.3	1685.3
20°	1678.5	1674.0	1651.5	1622.2	1606.4
22.5°	1613.2	1613.2	1586.2	1547.9	1532.1
25°	1552.4	1543.4	1518.6	1464.5	1423.9
27.5°	1482.5	1469.0	1442.0	1365.4	1318.1
30°	1405.9	1399.2	1360.9	1261.7	1225.7
32.5°	1333.8	1322.6	1282.0	1178.4	1149.1
35°	1259.5	1250.5	1189.6	1099.5	1072.5
37.5°	1185.1	1173.9	1097.2	1025.2	991.4
40°	1110.8	1097.2	1013.9	948.5	912.5
42.5°	1040.9	1022.9	941.8	871.9	831.4
45°	966.6	946.3	865.2	793.1	761.5
47.5°	892.2	874.2	799.8	725.5	689.4
50°	813.4	797.6	730.0	655.6	617.3
52.5°	748.0	723.2	657.9	583.5	552.0
55°	671.4	651.1	590.3	520.5	493.4
57.5°	601.6	581.3	525.0	459.6	437.1
60°	536.2	506.9	459.6	403.3	385.3
62.5°	464.1	441.6	401.0	353.7	376.3
65°	398.8	376.3	340.2	347.0	288.4
67.5°	326.7	315.4	283.9	252.3	243.3
70°	265.9	252.3	241.1	207.3	198.3
72.5°	211.8	198.3	182.5	164.5	157.7
75°	160.0	148.7	139.7	132.9	146.5
77.5°	110.4	105.9	99.1	92.4	90.1
80°	72.1	69.8	67.6	65.3	63.1
82.5°	42.8	42.8	42.8	42.8	42.8
85°	22.5	24.8	27.0	29.3	31.5
87.5°	13.5	13.5	15.8	18.0	20.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)