

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: P561736

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561736
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-LD4-2STD-35-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4459.0 lumens
Efficiency: N/A
Efficacy: 67.0 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

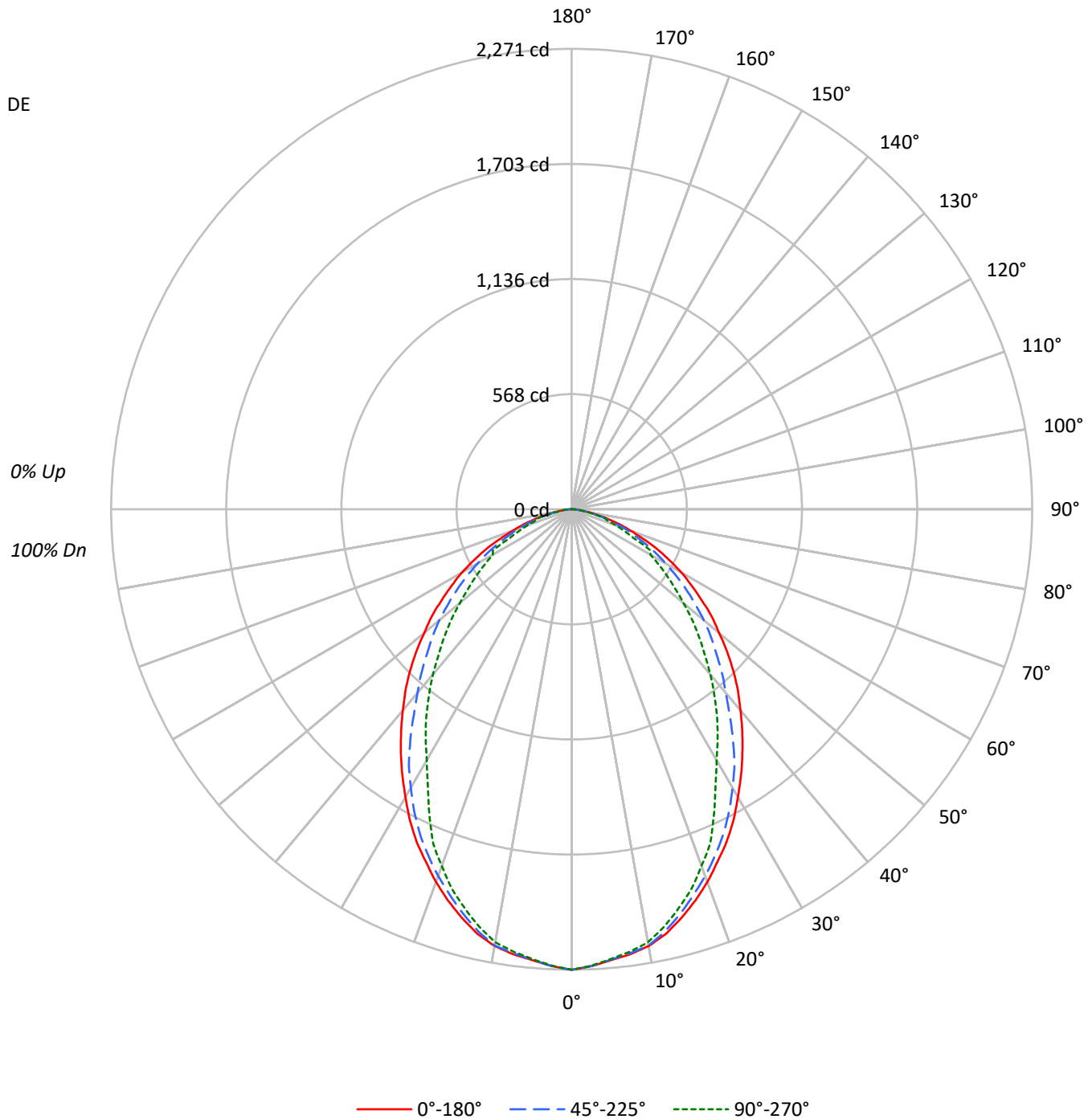
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6112	6112	6112
5°	6029	6022	6015
10°	5977	5970	5927
15°	5816	5757	5677
20°	5602	5512	5361
25°	5372	5255	4927
30°	5091	4928	4439
35°	4822	4554	4106
40°	4547	4151	3736
45°	4287	3837	3377
50°	3968	3562	3012
55°	3671	3228	2698
60°	3364	2883	2416
65°	2960	2525	2140
70°	2437	2211	1818
75°	1938	1693	1775
80°	1302	1221	1139
85°	812	973	1136

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4287 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.4	4.7
10°-20°	580.3	13.0
20°-30°	803.3	18.0
30°-40°	856.6	19.2
40°-50°	781.4	17.5
50°-60°	612.2	13.7
60°-70°	399.0	8.9
70°-80°	176.8	4.0
80°-90°	38.0	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°	1595.0	35.8
0°-40°	2451.6	55.0
0°-60°	3845.3	86.2
0°-90°	4459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4459.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2271	2271	2271	2271	2271	
5°	2232	2229	2229	2227	2227	212
15°	2088	2088	2066	2046	2038	587
25°	1809	1799	1770	1707	1660	831
35°	1468	1457	1386	1281	1250	918
45°	1126	1103	1008	924	888	868
55°	782	759	688	607	575	702
65°	465	438	396	404	336	458
75°	186	173	163	155	171	200
85°	26	29	32	34	37	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2271.4	2271.4	2271.4	2271.4	2271.4
2.5°	2255.6	2255.6	2255.6	2253.0	2253.0
5°	2232.0	2229.3	2229.3	2226.7	2226.7
7.5°	2213.6	2211.0	2208.3	2205.7	2200.5
10°	2187.3	2187.3	2184.7	2171.6	2168.9
12.5°	2145.3	2142.7	2132.2	2113.8	2108.6
15°	2087.5	2087.5	2066.5	2045.5	2037.7
17.5°	2024.5	2021.9	1995.6	1974.6	1964.1
20°	1956.3	1951.0	1924.7	1890.6	1872.2
22.5°	1880.1	1880.1	1848.6	1804.0	1785.6
25°	1809.2	1798.7	1769.8	1706.8	1659.5
27.5°	1727.8	1712.1	1680.5	1591.3	1536.1
30°	1638.5	1630.6	1586.0	1470.5	1428.5
32.5°	1554.5	1541.4	1494.1	1373.3	1339.2
35°	1467.8	1457.3	1386.4	1281.4	1249.9
37.5°	1381.2	1368.1	1278.8	1194.8	1155.4
40°	1294.5	1278.8	1181.6	1105.5	1063.5
42.5°	1213.1	1192.1	1097.6	1016.2	968.9
45°	1126.5	1102.9	1008.3	924.3	887.5
47.5°	1039.8	1018.8	932.2	845.5	803.5
50°	947.9	929.5	850.8	764.1	719.5
52.5°	871.8	842.9	766.7	680.1	643.3
55°	782.5	758.9	688.0	606.6	575.1
57.5°	701.1	677.5	611.8	535.7	509.4
60°	625.0	590.8	535.7	470.0	449.0
62.5°	540.9	514.7	467.4	412.3	438.5
65°	464.8	438.5	396.5	404.4	336.1
67.5°	380.7	367.6	330.9	294.1	283.6
70°	309.8	294.1	281.0	241.6	231.1
72.5°	246.8	231.1	212.7	191.7	183.8
75°	186.4	173.3	162.8	154.9	170.7
77.5°	128.7	123.4	115.5	107.7	105.0
80°	84.0	81.4	78.8	76.1	73.5
82.5°	49.9	49.9	49.9	49.9	49.9
85°	26.3	28.9	31.5	34.1	36.8
87.5°	15.8	15.8	18.4	21.0	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)