

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: P561864

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561864
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4762.0 lumens
Efficiency: N/A
Efficacy: 71.5 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

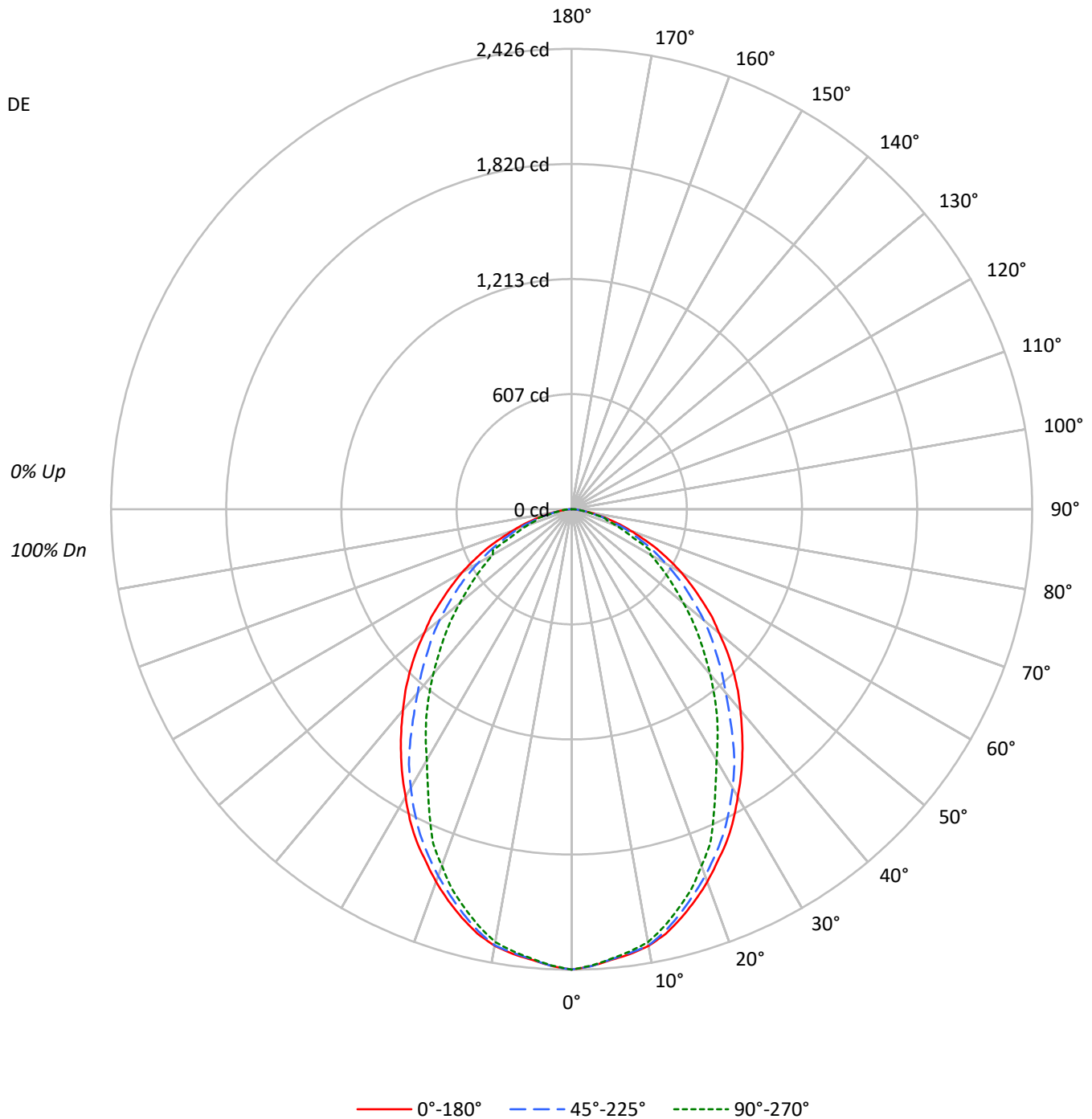
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6528	6528	6528
5°	6439	6431	6424
10°	6383	6375	6329
15°	6211	6148	6062
20°	5983	5886	5726
25°	5737	5612	5262
30°	5437	5263	4740
35°	5150	4864	4385
40°	4856	4433	3990
45°	4578	4098	3607
50°	4238	3804	3217
55°	3921	3447	2881
60°	3592	3079	2581
65°	3161	2696	2285
70°	2603	2361	1942
75°	2070	1808	1895
80°	1390	1303	1216
85°	865	1041	1213

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4578 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.8	4.7
10°-20°	619.7	13.0
20°-30°	857.9	18.0
30°-40°	914.8	19.2
40°-50°	834.6	17.5
50°-60°	653.8	13.7
60°-70°	426.1	8.9
70°-80°	188.8	4.0
80°-90°	40.5	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°	1703.4	35.8
0°-40°	2618.2	55.0
0°-60°	4106.5	86.2
0°-90°	4762.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4762.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2426	2426	2426	2426	2426	
5°	2384	2381	2381	2378	2378	226
15°	2229	2229	2207	2184	2176	627
25°	1932	1921	1890	1823	1772	887
35°	1568	1556	1481	1368	1335	980
45°	1203	1178	1077	987	948	927
55°	836	810	735	648	614	750
65°	496	468	423	432	359	489
75°	199	185	174	166	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2425.7	2425.7	2425.7	2425.7	2425.7
2.5°	2408.9	2408.9	2408.9	2406.1	2406.1
5°	2383.6	2380.8	2380.8	2378.0	2378.0
7.5°	2364.0	2361.2	2358.4	2355.6	2350.0
10°	2336.0	2336.0	2333.2	2319.1	2316.3
12.5°	2291.1	2288.3	2277.1	2257.4	2251.8
15°	2229.4	2229.4	2207.0	2184.5	2176.1
17.5°	2162.1	2159.3	2131.3	2108.8	2097.6
20°	2089.2	2083.6	2055.5	2019.1	1999.4
22.5°	2007.9	2007.9	1974.2	1926.5	1906.9
25°	1932.1	1920.9	1890.1	1822.8	1772.3
27.5°	1845.2	1828.4	1794.7	1699.4	1640.5
30°	1749.9	1741.5	1693.8	1570.4	1525.5
32.5°	1660.1	1646.1	1595.6	1466.6	1430.2
35°	1567.6	1556.4	1480.7	1368.5	1334.8
37.5°	1475.0	1461.0	1365.7	1275.9	1233.9
40°	1382.5	1365.7	1261.9	1180.6	1135.7
42.5°	1295.6	1273.1	1172.2	1085.3	1034.8
45°	1203.0	1177.8	1076.8	987.1	947.8
47.5°	1110.5	1088.1	995.5	903.0	858.1
50°	1012.3	992.7	908.6	816.0	768.4
52.5°	931.0	900.2	818.8	726.3	687.0
55°	835.7	810.4	734.7	647.8	614.1
57.5°	748.7	723.5	653.4	572.1	544.0
60°	667.4	631.0	572.1	502.0	479.5
62.5°	577.7	549.6	499.2	440.3	468.3
65°	496.4	468.3	423.4	431.9	358.9
67.5°	406.6	392.6	353.3	314.1	302.9
70°	330.9	314.1	300.1	258.0	246.8
72.5°	263.6	246.8	227.1	204.7	196.3
75°	199.1	185.1	173.9	165.5	182.3
77.5°	137.4	131.8	123.4	115.0	112.2
80°	89.7	86.9	84.1	81.3	78.5
82.5°	53.3	53.3	53.3	53.3	53.3
85°	28.0	30.8	33.7	36.5	39.3
87.5°	16.8	16.8	19.6	22.4	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)