

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: P562158

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562158
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-LD4-1HI-50-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4096.0 lumens
Efficiency: N/A
Efficacy: 94.8 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

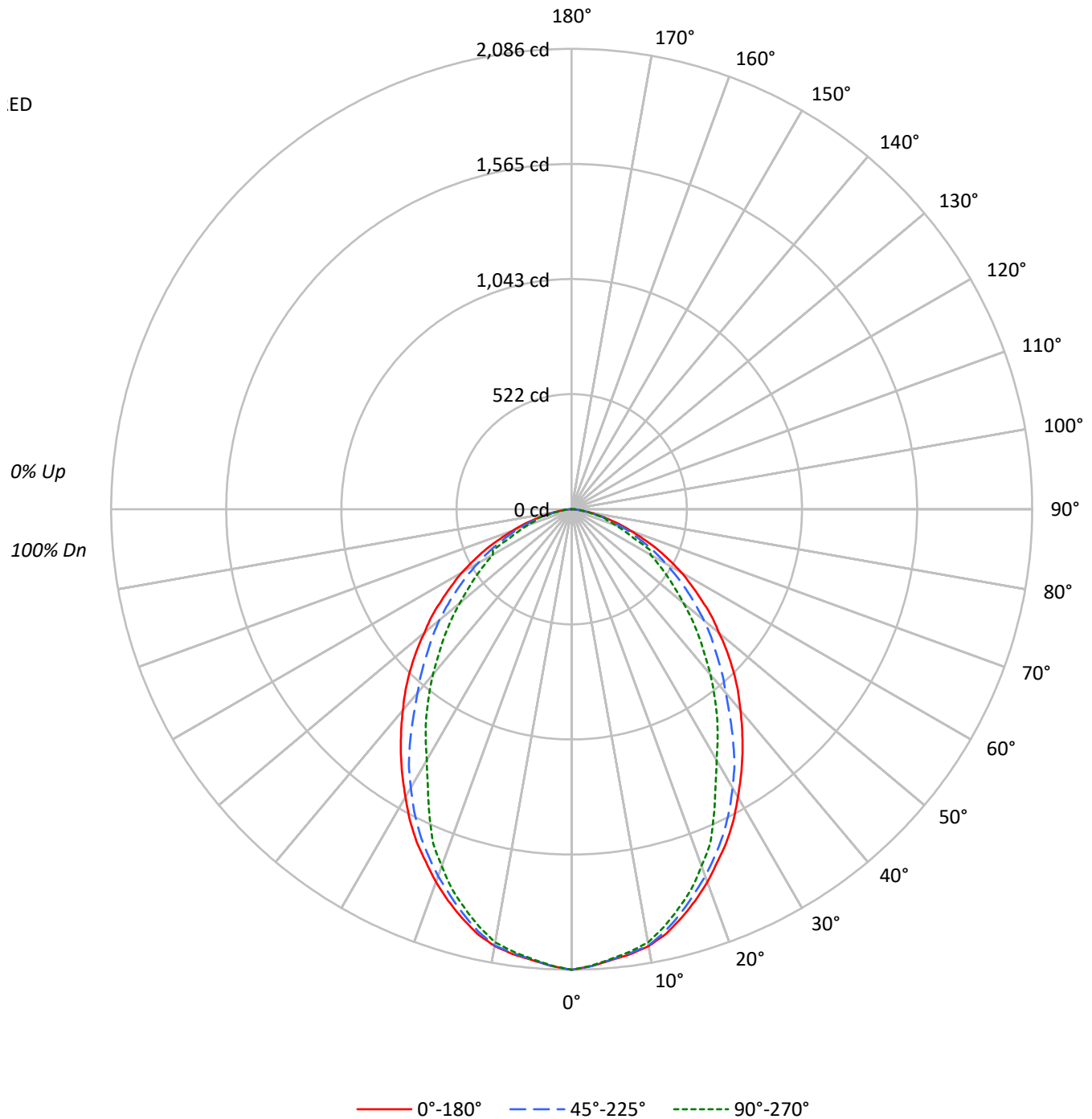
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2807	2807	2807
5°	2769	2766	2763
10°	2745	2742	2722
15°	2671	2644	2607
20°	2573	2532	2462
25°	2467	2413	2263
30°	2338	2263	2039
35°	2215	2092	1886
40°	2089	1906	1716
45°	1969	1762	1551
50°	1823	1636	1383
55°	1686	1483	1239
60°	1545	1324	1110
65°	1359	1160	983
70°	1120	1015	835
75°	891	777	815
80°	598	561	523
85°	372	446	522

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1969 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.2	4.7
10°-20°	533.0	13.0
20°-30°	737.9	18.0
30°-40°	786.9	19.2
40°-50°	717.8	17.5
50°-60°	562.4	13.7
60°-70°	366.5	8.9
70°-80°	162.4	4.0
80°-90°	34.9	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°	1465.2	35.8
0°-40°	2252.0	55.0
0°-60°	3532.2	86.2
0°-90°	4096.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2086	2086	2086	2086	2086	
5°	2050	2048	2048	2045	2045	195
15°	1918	1918	1898	1879	1872	539
25°	1662	1652	1626	1568	1524	763
35°	1348	1339	1274	1177	1148	843
45°	1035	1013	926	849	815	797
55°	719	697	632	557	528	645
65°	427	403	364	372	309	421
75°	171	159	150	142	157	184
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2086.4	2086.4	2086.4	2086.4	2086.4
2.5°	2072.0	2072.0	2072.0	2069.6	2069.6
5°	2050.3	2047.9	2047.9	2045.4	2045.4
7.5°	2033.4	2031.0	2028.6	2026.1	2021.3
10°	2009.3	2009.3	2006.8	1994.8	1992.4
12.5°	1970.7	1968.3	1958.6	1941.7	1936.9
15°	1917.6	1917.6	1898.3	1879.0	1871.8
17.5°	1859.7	1857.3	1833.2	1813.9	1804.2
20°	1797.0	1792.2	1768.1	1736.7	1719.8
22.5°	1727.0	1727.0	1698.1	1657.1	1640.2
25°	1661.9	1652.3	1625.7	1567.9	1524.4
27.5°	1587.1	1572.7	1543.7	1461.7	1411.1
30°	1505.1	1497.9	1456.9	1350.8	1312.2
32.5°	1428.0	1415.9	1372.5	1261.5	1230.2
35°	1348.4	1338.7	1273.6	1177.1	1148.1
37.5°	1268.8	1256.7	1174.7	1097.5	1061.3
40°	1189.2	1174.7	1085.4	1015.5	976.9
42.5°	1114.4	1095.1	1008.2	933.5	890.1
45°	1034.8	1013.1	926.2	849.1	815.3
47.5°	955.2	935.9	856.3	776.7	738.1
50°	870.8	853.9	781.5	701.9	660.9
52.5°	800.8	774.3	704.3	624.7	591.0
55°	718.8	697.1	632.0	557.2	528.2
57.5°	644.0	622.3	562.0	492.1	467.9
60°	574.1	542.7	492.1	431.8	412.5
62.5°	496.9	472.8	429.3	378.7	402.8
65°	426.9	402.8	364.2	371.5	308.7
67.5°	349.8	337.7	303.9	270.2	260.5
70°	284.6	270.2	258.1	221.9	212.3
72.5°	226.7	212.3	195.4	176.1	168.8
75°	171.3	159.2	149.5	142.3	156.8
77.5°	118.2	113.4	106.1	98.9	96.5
80°	77.2	74.8	72.4	70.0	67.5
82.5°	45.8	45.8	45.8	45.8	45.8
85°	24.1	26.5	28.9	31.4	33.8
87.5°	14.5	14.5	16.9	19.3	21.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)