

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: P562826

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562826
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-LD4-2LO-50-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4959.0 lumens
Efficiency: N/A
Efficacy: 106.0 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

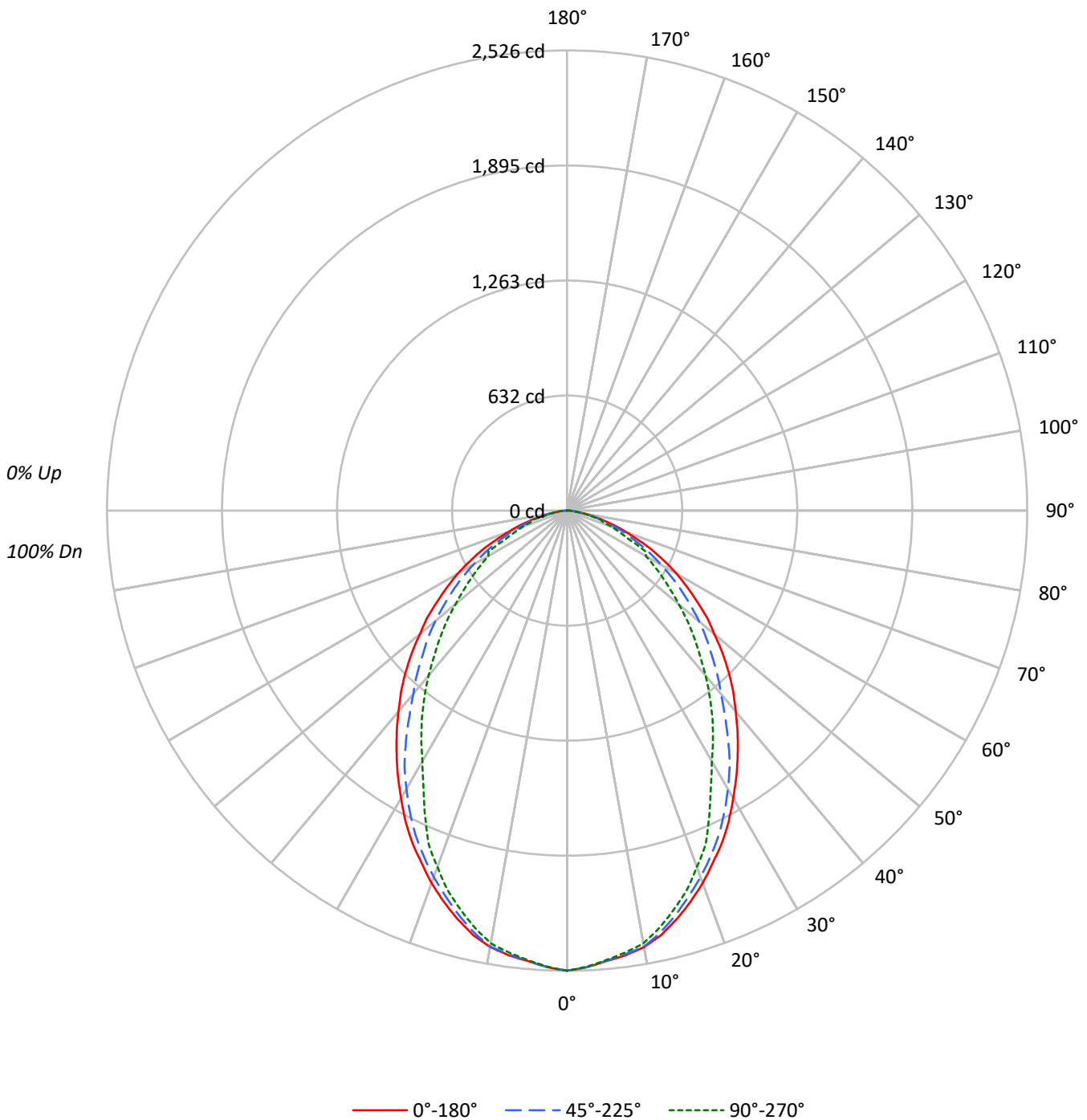
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3399	3399	3399
5°	3353	3349	3345
10°	3324	3320	3296
15°	3234	3201	3157
20°	3115	3065	2981
25°	2987	2922	2740
30°	2831	2740	2468
35°	2681	2533	2283
40°	2529	2308	2077
45°	2384	2134	1878
50°	2207	1981	1675
55°	2041	1795	1500
60°	1870	1603	1344
65°	1646	1404	1190
70°	1356	1229	1011
75°	1078	941	987
80°	724	679	634
85°	451	540	631

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2384 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.1	4.7
10°-20°	645.3	13.0
20°-30°	893.4	18.0
30°-40°	952.6	19.2
40°-50°	869.1	17.5
50°-60°	680.8	13.7
60°-70°	443.8	8.9
70°-80°	196.6	4.0
80°-90°	42.2	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°	1773.9	35.8
0°-40°	2726.5	55.0
0°-60°	4276.4	86.2
0°-90°	4959.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4959.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2526	2526	2526	2526	2526	
5°	2482	2479	2479	2476	2476	236
15°	2322	2322	2298	2275	2266	653
25°	2012	2000	1968	1898	1846	924
35°	1632	1621	1542	1425	1390	1021
45°	1253	1226	1121	1028	987	965
55°	870	844	765	675	640	781
65°	517	488	441	450	374	509
75°	207	193	181	172	190	222
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2526.0	2526.0	2526.0	2526.0	2526.0
2.5°	2508.5	2508.5	2508.5	2505.6	2505.6
5°	2482.2	2479.3	2479.3	2476.4	2476.4
7.5°	2461.8	2458.9	2456.0	2453.0	2447.2
10°	2432.6	2432.6	2429.7	2415.1	2412.2
12.5°	2385.9	2383.0	2371.3	2350.8	2345.0
15°	2321.6	2321.6	2298.3	2274.9	2266.1
17.5°	2251.5	2248.6	2219.4	2196.1	2184.4
20°	2175.6	2169.8	2140.6	2102.6	2082.2
22.5°	2090.9	2090.9	2055.9	2006.2	1985.8
25°	2012.1	2000.4	1968.3	1898.2	1845.6
27.5°	1921.5	1904.0	1869.0	1769.7	1708.4
30°	1822.3	1813.5	1763.9	1635.4	1588.6
32.5°	1728.8	1714.2	1661.6	1527.3	1489.3
35°	1632.4	1620.8	1541.9	1425.1	1390.1
37.5°	1536.1	1521.5	1422.2	1328.7	1284.9
40°	1439.7	1422.2	1314.1	1229.4	1182.7
42.5°	1349.2	1325.8	1220.7	1130.2	1077.6
45°	1252.8	1226.5	1121.4	1027.9	987.1
47.5°	1156.4	1133.1	1036.7	940.3	893.6
50°	1054.2	1033.8	946.2	849.8	800.2
52.5°	969.5	937.4	852.7	756.4	715.5
55°	870.2	844.0	765.1	674.6	639.5
57.5°	779.7	753.4	680.4	595.7	566.5
60°	695.0	657.1	595.7	522.7	499.4
62.5°	601.6	572.4	519.8	458.5	487.7
65°	516.9	487.7	441.0	449.7	373.8
67.5°	423.4	408.8	368.0	327.1	315.4
70°	344.6	327.1	312.5	268.7	257.0
72.5°	274.5	257.0	236.5	213.2	204.4
75°	207.3	192.7	181.1	172.3	189.8
77.5°	143.1	137.3	128.5	119.7	116.8
80°	93.4	90.5	87.6	84.7	81.8
82.5°	55.5	55.5	55.5	55.5	55.5
85°	29.2	32.1	35.0	38.0	40.9
87.5°	17.5	17.5	20.4	23.4	26.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)