

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: P562077

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562077
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-40-UNV-82-96-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4457.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

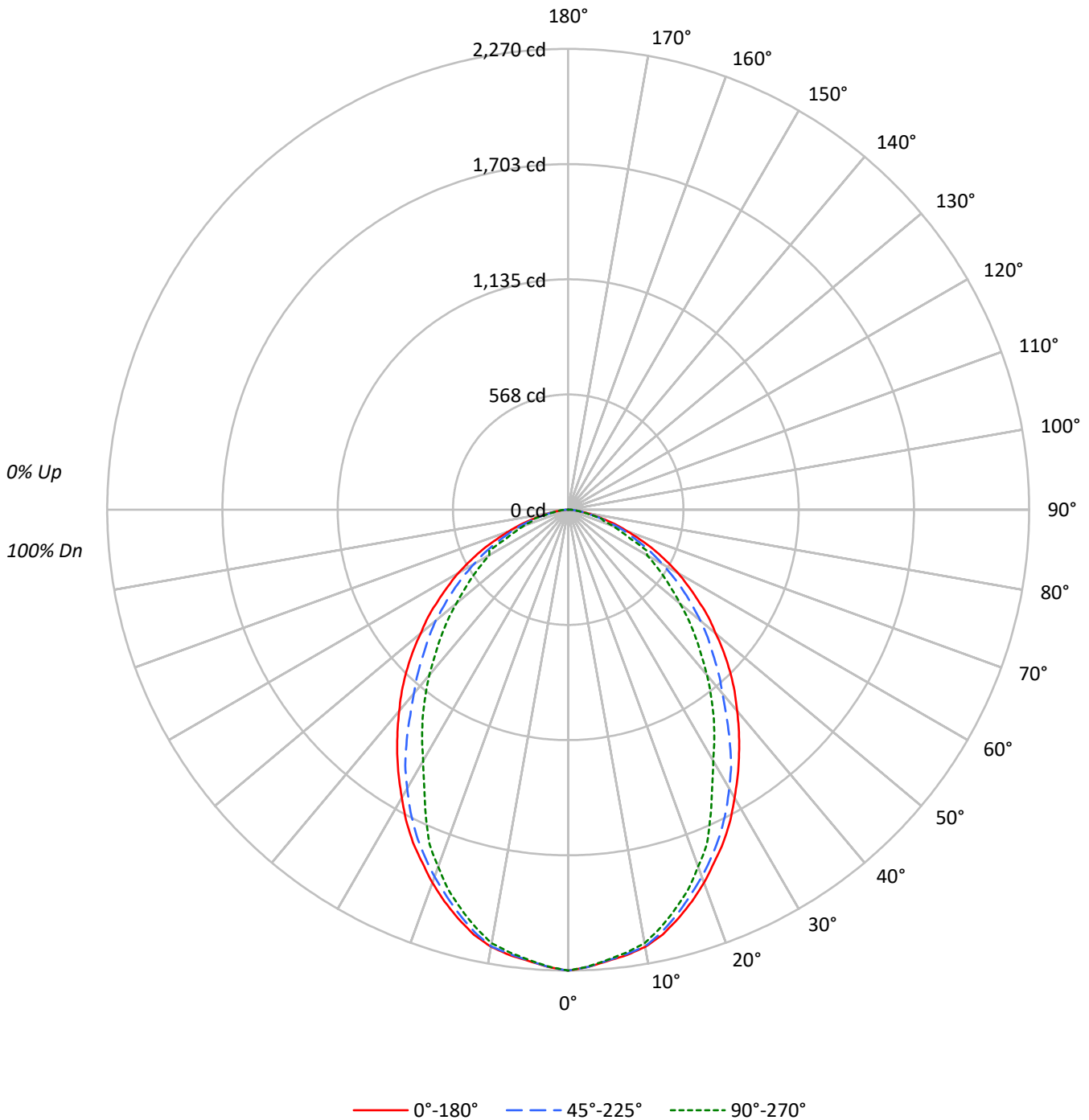
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3055	3055	3055
5°	3013	3010	3006
10°	2987	2983	2962
15°	2907	2877	2837
20°	2800	2755	2680
25°	2685	2626	2463
30°	2545	2463	2218
35°	2410	2276	2052
40°	2273	2074	1867
45°	2143	1918	1688
50°	1983	1780	1505
55°	1835	1613	1348
60°	1681	1441	1208
65°	1479	1262	1070
70°	1218	1105	909
75°	969	846	887
80°	651	610	570
85°	404	486	567

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2143 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.3	4.7
10°-20°	580.0	13.0
20°-30°	803.0	18.0
30°-40°	856.2	19.2
40°-50°	781.1	17.5
50°-60°	611.9	13.7
60°-70°	398.8	8.9
70°-80°	176.7	4.0
80°-90°	37.9	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°	1594.3	35.8
0°-40°	2450.5	55.0
0°-60°	3843.5	86.2
0°-90°	4457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2270	2270	2270	2270	2270	
5°	2231	2228	2228	2226	2226	212
15°	2087	2087	2066	2045	2037	587
25°	1808	1798	1769	1706	1659	830
35°	1467	1457	1386	1281	1249	917
45°	1126	1102	1008	924	887	867
55°	782	758	688	606	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°	2270.3	2270.3	2270.3	2270.3	2270.3
2.5°	2254.6	2254.6	2254.6	2252.0	2252.0
5°	2231.0	2228.3	2228.3	2225.7	2225.7
7.5°	2212.6	2210.0	2207.3	2204.7	2199.5
10°	2186.3	2186.3	2183.7	2170.6	2168.0
12.5°	2144.4	2141.7	2131.2	2112.9	2107.6
15°	2086.6	2086.6	2065.6	2044.6	2036.7
17.5°	2023.6	2021.0	1994.7	1973.7	1963.3
20°	1955.4	1950.1	1923.9	1889.8	1871.4
22.5°	1879.3	1879.3	1847.8	1803.1	1784.8
25°	1808.4	1797.9	1769.0	1706.0	1658.8
27.5°	1727.0	1711.3	1679.8	1590.5	1535.4
30°	1637.8	1629.9	1585.3	1469.8	1427.8
32.5°	1553.8	1540.7	1493.4	1372.7	1338.6
35°	1467.2	1456.7	1385.8	1280.8	1249.3
37.5°	1380.6	1367.5	1278.2	1194.2	1154.9
40°	1294.0	1278.2	1181.1	1105.0	1063.0
42.5°	1212.6	1191.6	1097.1	1015.7	968.5
45°	1126.0	1102.4	1007.9	923.9	887.1
47.5°	1039.4	1018.4	931.8	845.1	803.1
50°	947.5	929.1	850.4	763.8	719.2
52.5°	871.4	842.5	766.4	679.8	643.0
55°	782.2	758.5	687.7	606.3	574.8
57.5°	700.8	677.2	611.5	535.4	509.2
60°	624.7	590.5	535.4	469.8	448.8
62.5°	540.7	514.4	467.2	412.1	438.3
65°	464.6	438.3	396.3	404.2	336.0
67.5°	380.6	367.5	330.7	294.0	283.5
70°	309.7	294.0	280.8	241.5	231.0
72.5°	246.7	231.0	212.6	191.6	183.7
75°	186.4	173.2	162.7	154.9	170.6
77.5°	128.6	123.4	115.5	107.6	105.0
80°	84.0	81.4	78.7	76.1	73.5
82.5°	49.9	49.9	49.9	49.9	49.9
85°	26.2	28.9	31.5	34.1	36.7
87.5°	15.7	15.7	18.4	21.0	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)