

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: P562010

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562010
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-35-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3733.0 lumens
Efficiency: N/A
Efficacy: 86.4 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

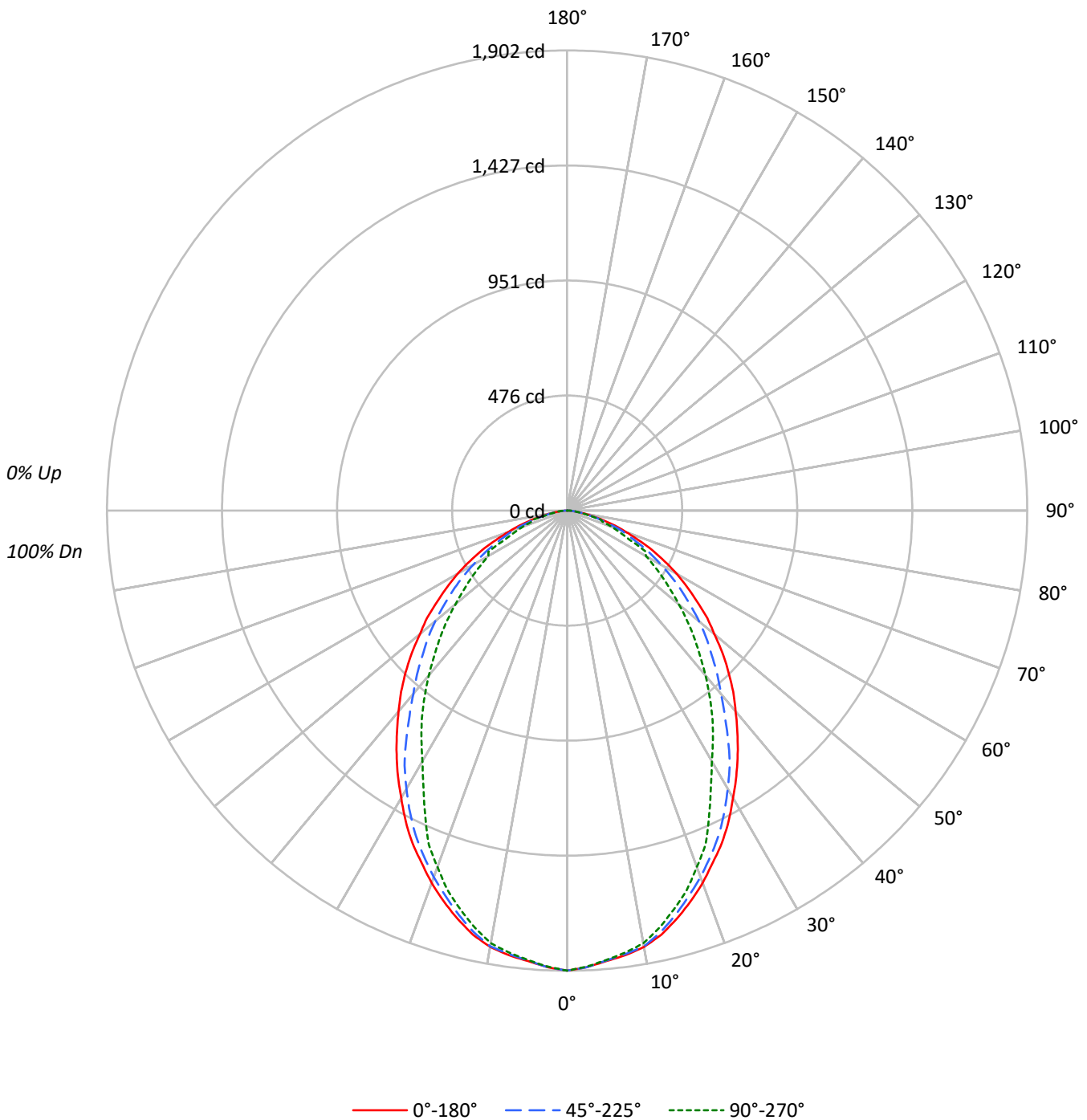
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2558	2558	2558
5°	2524	2521	2518
10°	2502	2499	2481
15°	2434	2410	2376
20°	2345	2307	2244
25°	2249	2200	2063
30°	2131	2063	1858
35°	2019	1906	1719
40°	1904	1737	1564
45°	1795	1606	1414
50°	1661	1491	1261
55°	1537	1351	1129
60°	1408	1207	1012
65°	1239	1057	896
70°	1020	925	761
75°	811	709	743
80°	545	511	477
85°	340	408	475

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1795 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.0	4.7
10°-20°	485.8	13.0
20°-30°	672.5	18.0
30°-40°	717.1	19.2
40°-50°	654.2	17.5
50°-60°	512.5	13.7
60°-70°	334.0	8.9
70°-80°	148.0	4.0
80°-90°	31.8	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°	1335.3	35.8
0°-40°	2052.4	55.0
0°-60°	3219.2	86.2
0°-90°	3733.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3733.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1902	1902	1902	1902	1902	
5°	1869	1866	1866	1864	1864	177
15°	1748	1748	1730	1712	1706	491
25°	1515	1506	1482	1429	1389	695
35°	1229	1220	1161	1073	1046	768
45°	943	923	844	774	743	726
55°	655	635	576	508	481	588
65°	389	367	332	338	281	383
75°	156	145	136	130	143	167
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1901.5	1901.5	1901.5	1901.5	1901.5
2.5°	1888.4	1888.4	1888.4	1886.2	1886.2
5°	1868.6	1866.4	1866.4	1864.2	1864.2
7.5°	1853.2	1851.0	1848.8	1846.6	1842.2
10°	1831.2	1831.2	1829.0	1818.0	1815.8
12.5°	1796.0	1793.8	1785.0	1769.6	1765.2
15°	1747.7	1747.7	1730.1	1712.5	1705.9
17.5°	1694.9	1692.7	1670.7	1653.1	1644.3
20°	1637.7	1633.3	1611.4	1582.8	1567.4
22.5°	1574.0	1574.0	1547.6	1510.2	1494.9
25°	1514.6	1505.8	1481.7	1428.9	1389.3
27.5°	1446.5	1433.3	1406.9	1332.2	1286.0
30°	1371.7	1365.2	1327.8	1231.1	1195.9
32.5°	1301.4	1290.4	1250.8	1149.7	1121.1
35°	1228.9	1220.1	1160.7	1072.8	1046.4
37.5°	1156.3	1145.3	1070.6	1000.2	967.3
40°	1083.8	1070.6	989.2	925.5	890.3
42.5°	1015.6	998.0	918.9	850.7	811.2
45°	943.1	923.3	844.2	773.8	743.0
47.5°	870.5	852.9	780.4	707.9	672.7
50°	793.6	778.2	712.3	639.7	602.3
52.5°	729.8	705.7	641.9	569.4	538.6
55°	655.1	635.3	576.0	507.8	481.4
57.5°	586.9	567.2	512.2	448.5	426.5
60°	523.2	494.6	448.5	393.5	375.9
62.5°	452.9	430.9	391.3	345.1	367.1
65°	389.1	367.1	331.9	338.5	281.4
67.5°	318.8	307.8	277.0	246.2	237.4
70°	259.4	246.2	235.2	202.2	193.5
72.5°	206.6	193.5	178.1	160.5	153.9
75°	156.1	145.1	136.3	129.7	142.9
77.5°	107.7	103.3	96.7	90.1	87.9
80°	70.3	68.1	65.9	63.8	61.6
82.5°	41.8	41.8	41.8	41.8	41.8
85°	22.0	24.2	26.4	28.6	30.8
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)