

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: P562076

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562076
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-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3745.0 lumens
Efficiency: N/A
Efficacy: 86.7 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

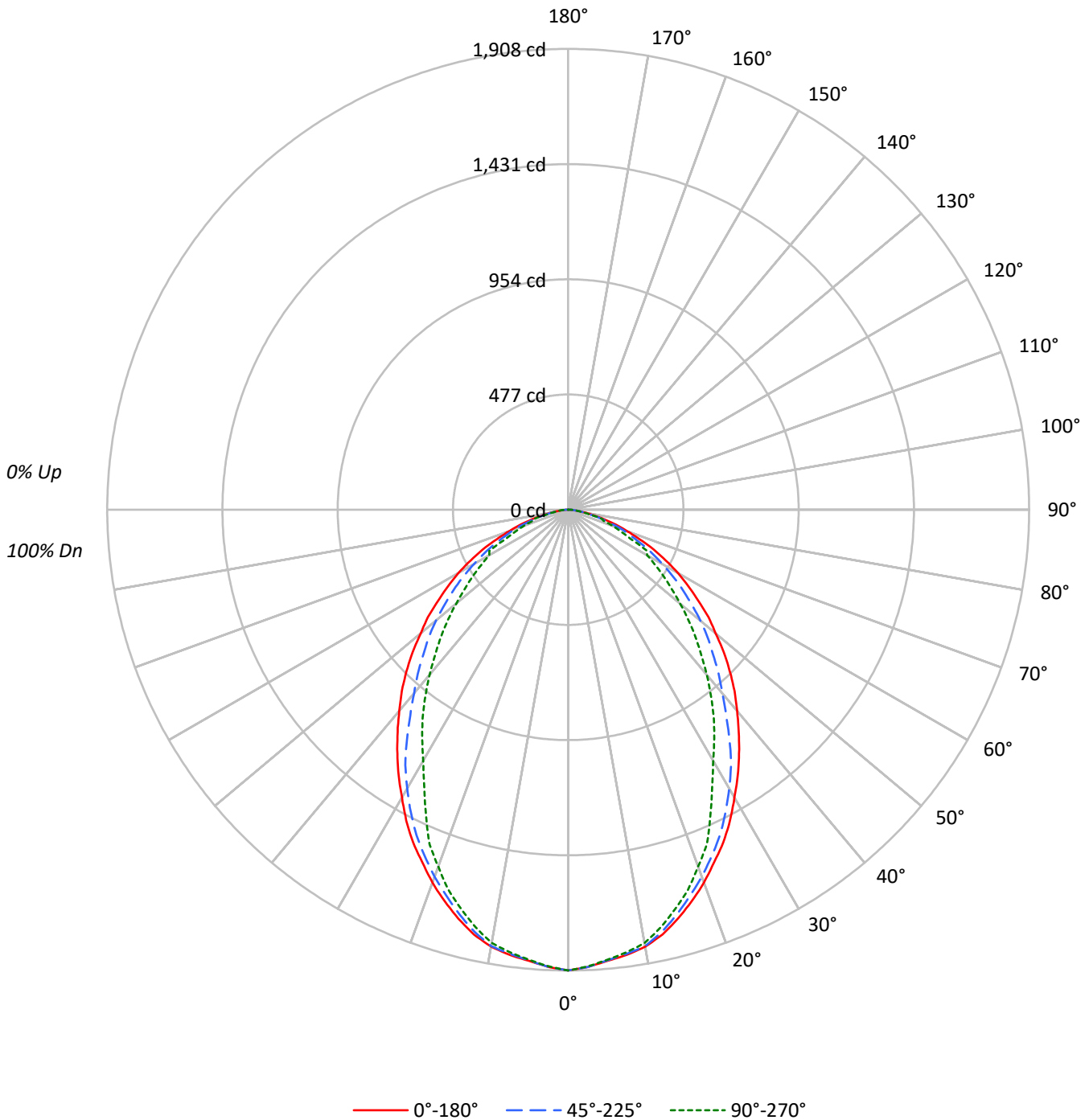
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2567	2567	2567
5°	2532	2529	2526
10°	2510	2507	2489
15°	2442	2418	2384
20°	2353	2315	2251
25°	2256	2207	2069
30°	2138	2069	1864
35°	2025	1913	1724
40°	1910	1743	1569
45°	1800	1611	1418
50°	1666	1496	1265
55°	1542	1355	1133
60°	1412	1211	1015
65°	1243	1060	899
70°	1024	928	764
75°	814	711	745
80°	547	513	479
85°	341	409	477

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1800 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.6	4.7
10°-20°	487.3	13.0
20°-30°	674.7	18.0
30°-40°	719.4	19.2
40°-50°	656.3	17.5
50°-60°	514.2	13.7
60°-70°	335.1	8.9
70°-80°	148.5	4.0
80°-90°	31.9	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°	1339.6	35.8
0°-40°	2059.0	55.0
0°-60°	3229.5	86.2
0°-90°	3745.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3745.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1908	1908	1908	1908	1908	
5°	1875	1872	1872	1870	1870	178
15°	1753	1753	1736	1718	1711	493
25°	1520	1511	1486	1434	1394	698
35°	1233	1224	1164	1076	1050	771
45°	946	926	847	776	745	729
55°	657	637	578	509	483	589
65°	390	368	333	340	282	385
75°	157	146	137	130	143	168
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°	1907.7	1907.7	1907.7	1907.7	1907.7
2.5°	1894.4	1894.4	1894.4	1892.2	1892.2
5°	1874.6	1872.4	1872.4	1870.2	1870.2
7.5°	1859.1	1856.9	1854.7	1852.5	1848.1
10°	1837.1	1837.1	1834.9	1823.8	1821.6
12.5°	1801.8	1799.6	1790.8	1775.3	1770.9
15°	1753.3	1753.3	1735.6	1718.0	1711.4
17.5°	1700.3	1698.1	1676.1	1658.4	1649.6
20°	1643.0	1638.6	1616.5	1587.9	1572.4
22.5°	1579.1	1579.1	1552.6	1515.1	1499.7
25°	1519.5	1510.7	1486.4	1433.5	1393.8
27.5°	1451.1	1437.9	1411.4	1336.5	1290.1
30°	1376.2	1369.5	1332.0	1235.0	1199.7
32.5°	1305.6	1294.6	1254.9	1153.4	1124.7
35°	1232.8	1224.0	1164.4	1076.2	1049.8
37.5°	1160.0	1149.0	1074.0	1003.4	970.4
40°	1087.3	1074.0	992.4	928.5	893.2
42.5°	1018.9	1001.2	921.8	853.5	813.8
45°	946.1	926.3	846.9	776.3	745.4
47.5°	873.3	855.7	782.9	710.1	674.8
50°	796.1	780.7	714.5	641.8	604.3
52.5°	732.2	707.9	644.0	571.2	540.3
55°	657.2	637.4	577.8	509.4	483.0
57.5°	588.8	569.0	513.9	449.9	427.8
60°	524.9	496.2	449.9	394.8	377.1
62.5°	454.3	432.3	392.6	346.2	368.3
65°	390.4	368.3	333.0	339.6	282.3
67.5°	319.8	308.8	277.9	247.0	238.2
70°	260.2	247.0	236.0	202.9	194.1
72.5°	207.3	194.1	178.6	161.0	154.4
75°	156.6	145.6	136.7	130.1	143.3
77.5°	108.1	103.7	97.0	90.4	88.2
80°	70.6	68.4	66.2	64.0	61.8
82.5°	41.9	41.9	41.9	41.9	41.9
85°	22.1	24.3	26.5	28.7	30.9
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)