

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: P560817

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560817
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-12-4-LD4-1HI-40-UNV-80-84-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4115.0 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

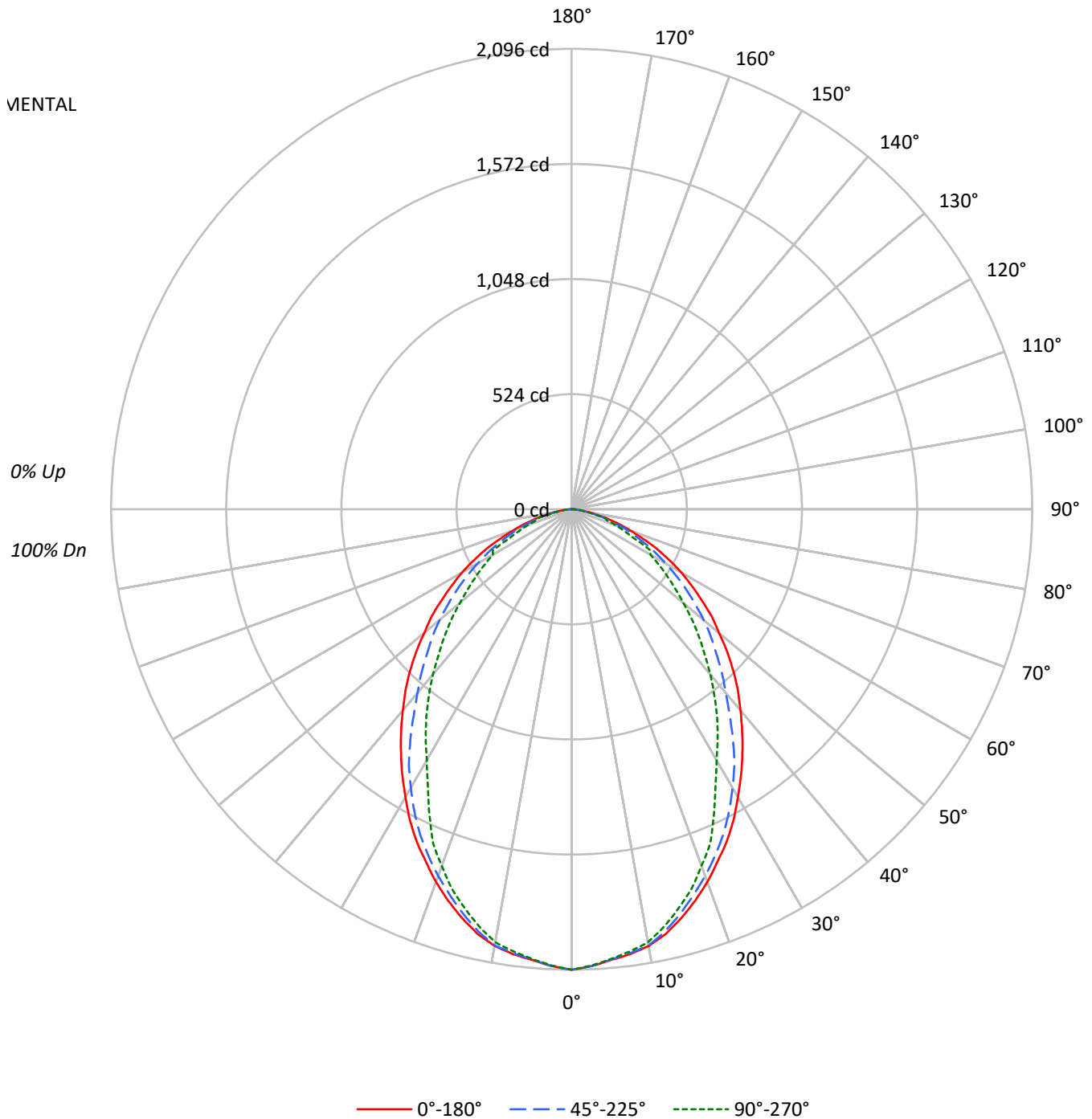
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P560817

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P560817

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD

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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5641	5641	5641
5°	5564	5558	5551
10°	5516	5509	5469
15°	5367	5313	5239
20°	5170	5087	4948
25°	4957	4850	4547
30°	4699	4548	4096
35°	4450	4203	3789
40°	4197	3831	3447
45°	3956	3541	3117
50°	3662	3287	2780
55°	3388	2979	2490
60°	3104	2660	2230
65°	2731	2330	1975
70°	2249	2040	1677
75°	1789	1562	1638
80°	1201	1127	1052
85°	747	898	1047

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3956 cd/sqm



TEST NUMBER: P560817

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.1	4.7
10°-20°	535.5	13.0
20°-30°	741.4	18.0
30°-40°	790.5	19.2
40°-50°	721.2	17.5
50°-60°	565.0	13.7
60°-70°	368.2	8.9
70°-80°	163.1	4.0
80°-90°	35.0	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°	1472.0	35.8
0°-40°	2262.5	55.0
0°-60°	3548.6	86.2
0°-90°	4115.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4115.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2096	2096	2096	2096	2096	
5°	2060	2057	2057	2055	2055	196
15°	1926	1926	1907	1888	1880	542
25°	1670	1660	1633	1575	1532	767
35°	1355	1345	1280	1183	1154	847
45°	1040	1018	930	853	819	801
55°	722	700	635	560	531	648
65°	429	405	366	373	310	423
75°	172	160	150	143	158	184
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



TEST NUMBER: P560817

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-80-84-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2096.1	2096.1	2096.1	2096.1	2096.1
2.5°	2081.6	2081.6	2081.6	2079.2	2079.2
5°	2059.8	2057.4	2057.4	2054.9	2054.9
7.5°	2042.8	2040.4	2038.0	2035.5	2030.7
10°	2018.6	2018.6	2016.2	2004.0	2001.6
12.5°	1979.8	1977.4	1967.7	1950.7	1945.9
15°	1926.5	1926.5	1907.1	1887.7	1880.5
17.5°	1868.3	1865.9	1841.7	1822.3	1812.6
20°	1805.3	1800.5	1776.3	1744.8	1727.8
22.5°	1735.1	1735.1	1706.0	1664.8	1647.8
25°	1669.6	1659.9	1633.3	1575.1	1531.5
27.5°	1594.5	1580.0	1550.9	1468.5	1417.6
30°	1512.1	1504.8	1463.7	1357.0	1318.3
32.5°	1434.6	1422.5	1378.8	1267.4	1235.9
35°	1354.6	1344.9	1279.5	1182.6	1153.5
37.5°	1274.6	1262.5	1180.1	1102.6	1066.2
40°	1194.7	1180.1	1090.5	1020.2	981.4
42.5°	1119.5	1100.2	1012.9	937.8	894.2
45°	1039.6	1017.8	930.5	853.0	819.1
47.5°	959.6	940.2	860.3	780.3	741.5
50°	874.8	857.8	785.1	705.2	664.0
52.5°	804.5	777.9	707.6	627.6	593.7
55°	722.1	700.3	634.9	559.8	530.7
57.5°	647.0	625.2	564.6	494.3	470.1
60°	576.7	545.2	494.3	433.8	414.4
62.5°	499.2	475.0	431.3	380.5	404.7
65°	428.9	404.7	365.9	373.2	310.2
67.5°	351.4	339.3	305.3	271.4	261.7
70°	285.9	271.4	259.3	222.9	213.2
72.5°	227.8	213.2	196.3	176.9	169.6
75°	172.1	159.9	150.2	143.0	157.5
77.5°	118.7	113.9	106.6	99.4	96.9
80°	77.5	75.1	72.7	70.3	67.9
82.5°	46.0	46.0	46.0	46.0	46.0
85°	24.2	26.7	29.1	31.5	33.9
87.5°	14.5	14.5	17.0	19.4	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)