

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: P561674

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561674
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-LD4-2LO-50-UNV-81-94-EDD-90
Description: 1X4 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: 4221.0 lumens
Efficiency: N/A
Efficacy: 90.2 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

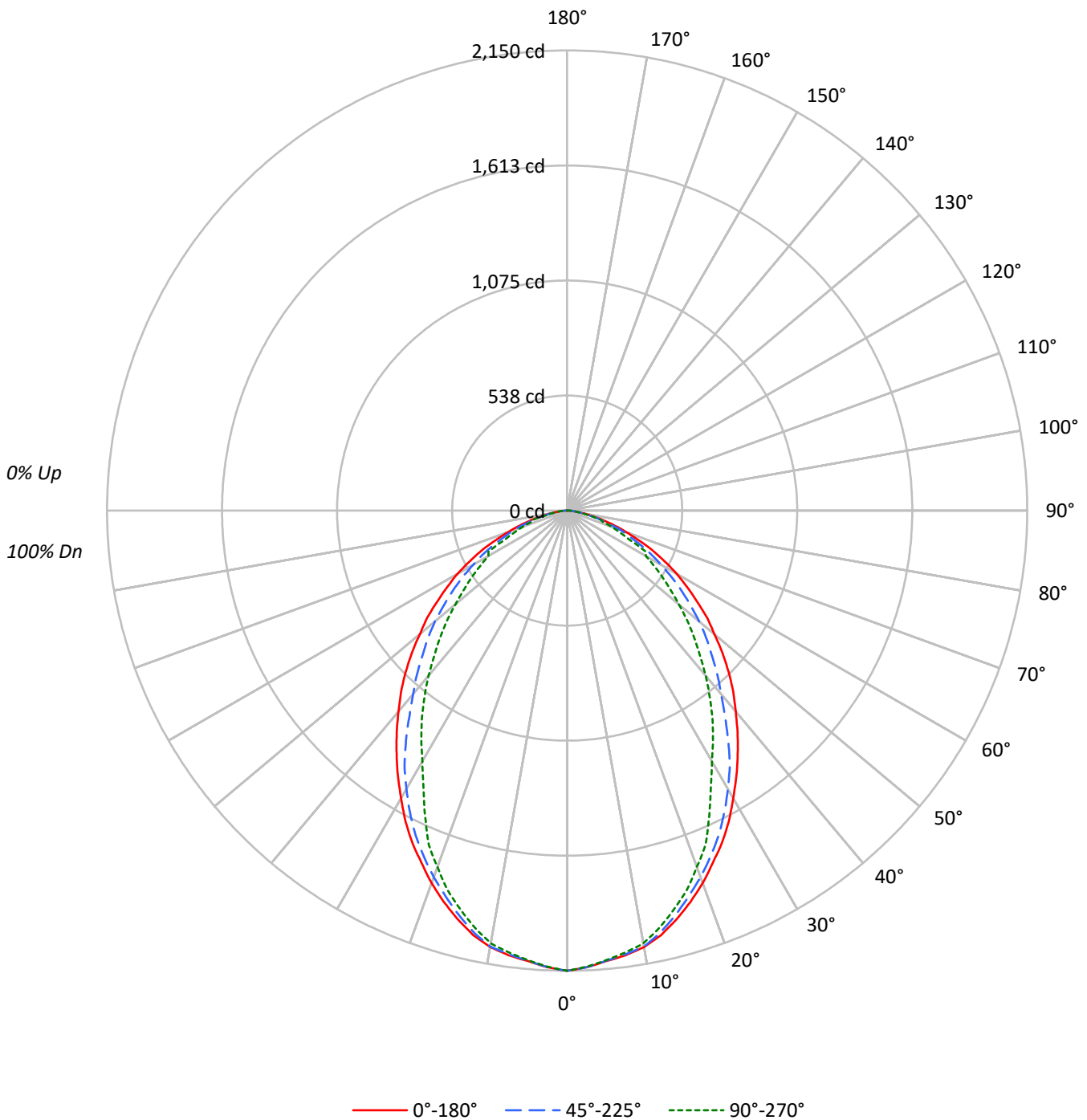
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5786	5786	5786
5°	5707	5700	5694
10°	5658	5651	5610
15°	5505	5450	5374
20°	5303	5218	5075
25°	5085	4975	4665
30°	4820	4665	4202
35°	4565	4311	3887
40°	4305	3929	3536
45°	4058	3632	3197
50°	3756	3372	2851
55°	3475	3056	2554
60°	3184	2729	2288
65°	2802	2390	2026
70°	2308	2093	1721
75°	1835	1602	1680
80°	1232	1156	1079
85°	769	920	1074

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4058 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	4.7
10°-20°	549.3	13.0
20°-30°	760.5	18.0
30°-40°	810.9	19.2
40°-50°	739.7	17.5
50°-60°	579.5	13.7
60°-70°	377.7	8.9
70°-80°	167.3	4.0
80°-90°	35.9	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°	1509.9	35.8
0°-40°	2320.8	55.0
0°-60°	3640.0	86.2
0°-90°	4221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4221.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2150	2150	2150	2150	2150	
5°	2113	2110	2110	2108	2108	201
15°	1976	1976	1956	1936	1929	556
25°	1713	1703	1675	1616	1571	786
35°	1390	1380	1312	1213	1183	869
45°	1066	1044	954	875	840	821
55°	741	718	651	574	544	664
65°	440	415	375	383	318	434
75°	176	164	154	147	162	189
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2150.1	2150.1	2150.1	2150.1	2150.1
2.5°	2135.2	2135.2	2135.2	2132.7	2132.7
5°	2112.8	2110.3	2110.3	2107.9	2107.9
7.5°	2095.4	2093.0	2090.5	2088.0	2083.0
10°	2070.6	2070.6	2068.1	2055.7	2053.2
12.5°	2030.8	2028.3	2018.4	2001.0	1996.0
15°	1976.1	1976.1	1956.2	1936.4	1928.9
17.5°	1916.5	1914.0	1889.1	1869.2	1859.3
20°	1851.8	1846.9	1822.0	1789.7	1772.3
22.5°	1779.8	1779.8	1749.9	1707.7	1690.3
25°	1712.6	1702.7	1675.4	1615.7	1571.0
27.5°	1635.6	1620.7	1590.8	1506.3	1454.1
30°	1551.1	1543.6	1501.4	1392.0	1352.2
32.5°	1471.5	1459.1	1414.4	1300.0	1267.7
35°	1389.5	1379.6	1312.4	1213.0	1183.2
37.5°	1307.5	1295.0	1210.5	1131.0	1093.7
40°	1225.4	1210.5	1118.6	1046.5	1006.7
42.5°	1148.4	1128.5	1039.0	962.0	917.2
45°	1066.4	1044.0	954.5	875.0	840.2
47.5°	984.3	964.4	882.4	800.4	760.6
50°	897.3	879.9	805.4	723.3	681.1
52.5°	825.2	797.9	725.8	643.8	609.0
55°	740.7	718.4	651.3	574.2	544.4
57.5°	663.7	641.3	579.2	507.1	482.2
60°	591.6	559.3	507.1	444.9	425.1
62.5°	512.1	487.2	442.5	390.3	415.1
65°	440.0	415.1	375.3	382.8	318.2
67.5°	360.4	348.0	313.2	278.4	268.5
70°	293.3	278.4	266.0	228.7	218.7
72.5°	233.7	218.7	201.3	181.5	174.0
75°	176.5	164.1	154.1	146.7	161.6
77.5°	121.8	116.8	109.4	101.9	99.4
80°	79.5	77.1	74.6	72.1	69.6
82.5°	47.2	47.2	47.2	47.2	47.2
85°	24.9	27.3	29.8	32.3	34.8
87.5°	14.9	14.9	17.4	19.9	22.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)