

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: P560871

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560871
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-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3866.0 lumens
Efficiency: N/A
Efficacy: 89.5 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

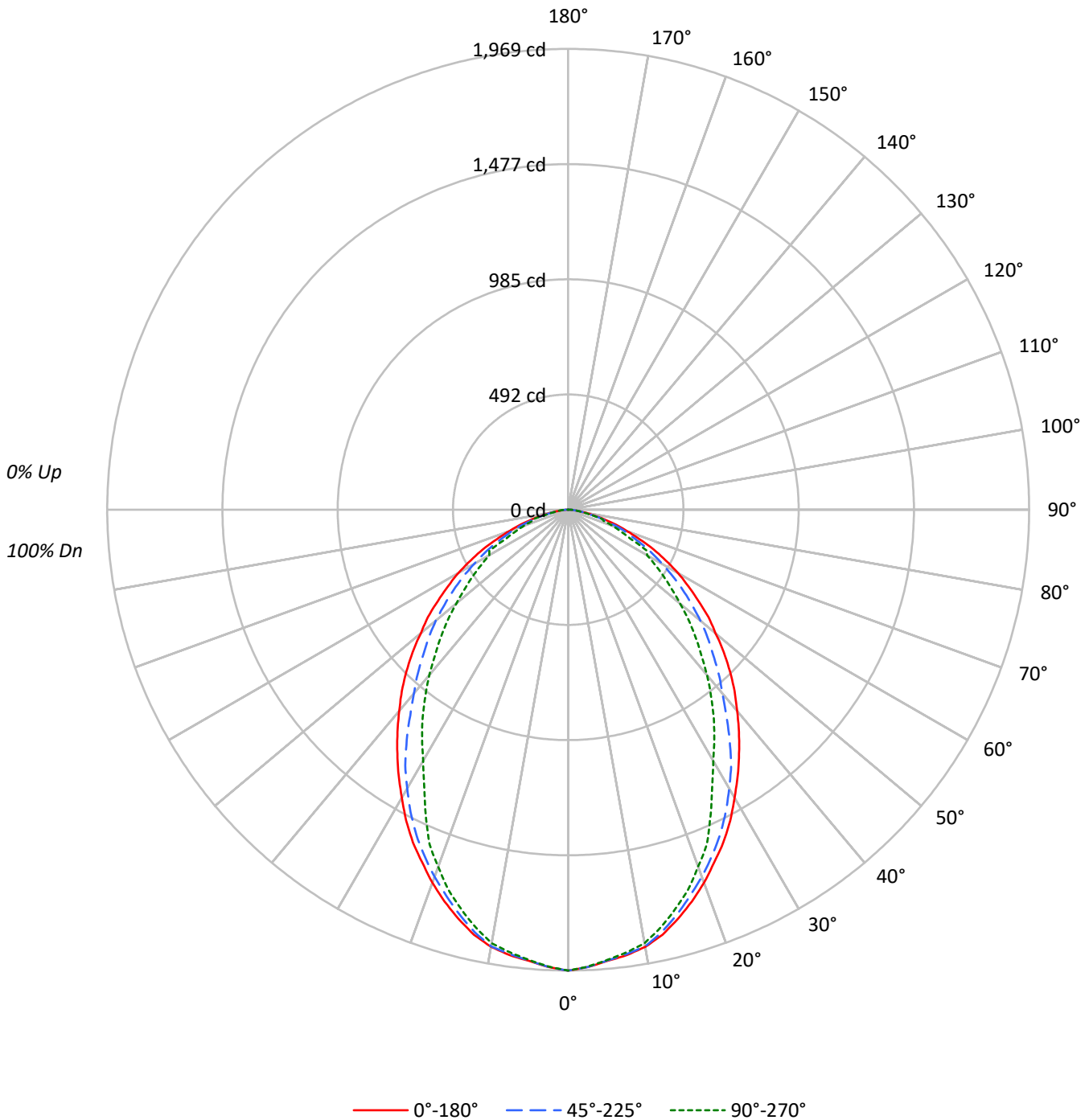
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5299	5299	5299
5°	5227	5221	5215
10°	5182	5176	5138
15°	5042	4992	4922
20°	4857	4779	4648
25°	4657	4556	4272
30°	4414	4273	3848
35°	4181	3949	3560
40°	3943	3599	3239
45°	3717	3327	2928
50°	3441	3088	2611
55°	3183	2799	2339
60°	2916	2499	2095
65°	2566	2189	1855
70°	2113	1917	1576
75°	1680	1468	1539
80°	1130	1058	987
85°	704	843	985

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3717 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.3	4.7
10°-20°	503.1	13.0
20°-30°	696.5	18.0
30°-40°	742.7	19.2
40°-50°	677.5	17.5
50°-60°	530.8	13.7
60°-70°	345.9	8.9
70°-80°	153.3	4.0
80°-90°	32.9	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°	1382.9	35.8
0°-40°	2125.6	55.0
0°-60°	3333.9	86.2
0°-90°	3866.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3866.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1969	1969	1969	1969	1969	
5°	1935	1933	1933	1931	1931	184
15°	1810	1810	1792	1774	1767	509
25°	1569	1560	1534	1480	1439	720
35°	1273	1264	1202	1111	1084	796
45°	977	956	874	801	770	752
55°	678	658	596	526	499	609
65°	403	380	344	351	291	397
75°	162	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1969.3	1969.3	1969.3	1969.3	1969.3
2.5°	1955.6	1955.6	1955.6	1953.4	1953.4
5°	1935.1	1932.9	1932.9	1930.6	1930.6
7.5°	1919.2	1916.9	1914.6	1912.4	1907.8
10°	1896.4	1896.4	1894.2	1882.8	1880.5
12.5°	1860.0	1857.7	1848.6	1832.7	1828.1
15°	1809.9	1809.9	1791.7	1773.5	1766.7
17.5°	1755.3	1753.0	1730.2	1712.0	1702.9
20°	1696.1	1691.5	1668.8	1639.2	1623.2
22.5°	1630.1	1630.1	1602.8	1564.0	1548.1
25°	1568.6	1559.5	1534.5	1479.8	1438.8
27.5°	1498.0	1484.4	1457.0	1379.6	1331.8
30°	1420.6	1413.8	1375.1	1274.9	1238.5
32.5°	1347.8	1336.4	1295.4	1190.7	1161.1
35°	1272.6	1263.5	1202.1	1111.0	1083.7
37.5°	1197.5	1186.1	1108.7	1035.9	1001.7
40°	1122.4	1108.7	1024.5	958.5	922.0
42.5°	1051.8	1033.6	951.6	881.1	840.1
45°	976.7	956.2	874.2	801.4	769.5
47.5°	901.5	883.3	808.2	733.1	696.7
50°	821.9	805.9	737.6	662.5	623.8
52.5°	755.8	730.8	664.8	589.6	557.8
55°	678.4	657.9	596.5	525.9	498.6
57.5°	607.9	587.4	530.5	464.4	441.7
60°	541.8	512.2	464.4	407.5	389.3
62.5°	469.0	446.2	405.2	357.4	380.2
65°	403.0	380.2	343.8	350.6	291.4
67.5°	330.1	318.7	286.9	255.0	245.9
70°	268.6	255.0	243.6	209.5	200.3
72.5°	214.0	200.3	184.4	166.2	159.4
75°	161.6	150.3	141.2	134.3	148.0
77.5°	111.6	107.0	100.2	93.3	91.1
80°	72.9	70.6	68.3	66.0	63.7
82.5°	43.3	43.3	43.3	43.3	43.3
85°	22.8	25.0	27.3	29.6	31.9
87.5°	13.7	13.7	15.9	18.2	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)