

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: P560934

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560934
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-50-UNV-93-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3420.0 lumens
Efficiency: N/A
Efficacy: 79.2 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

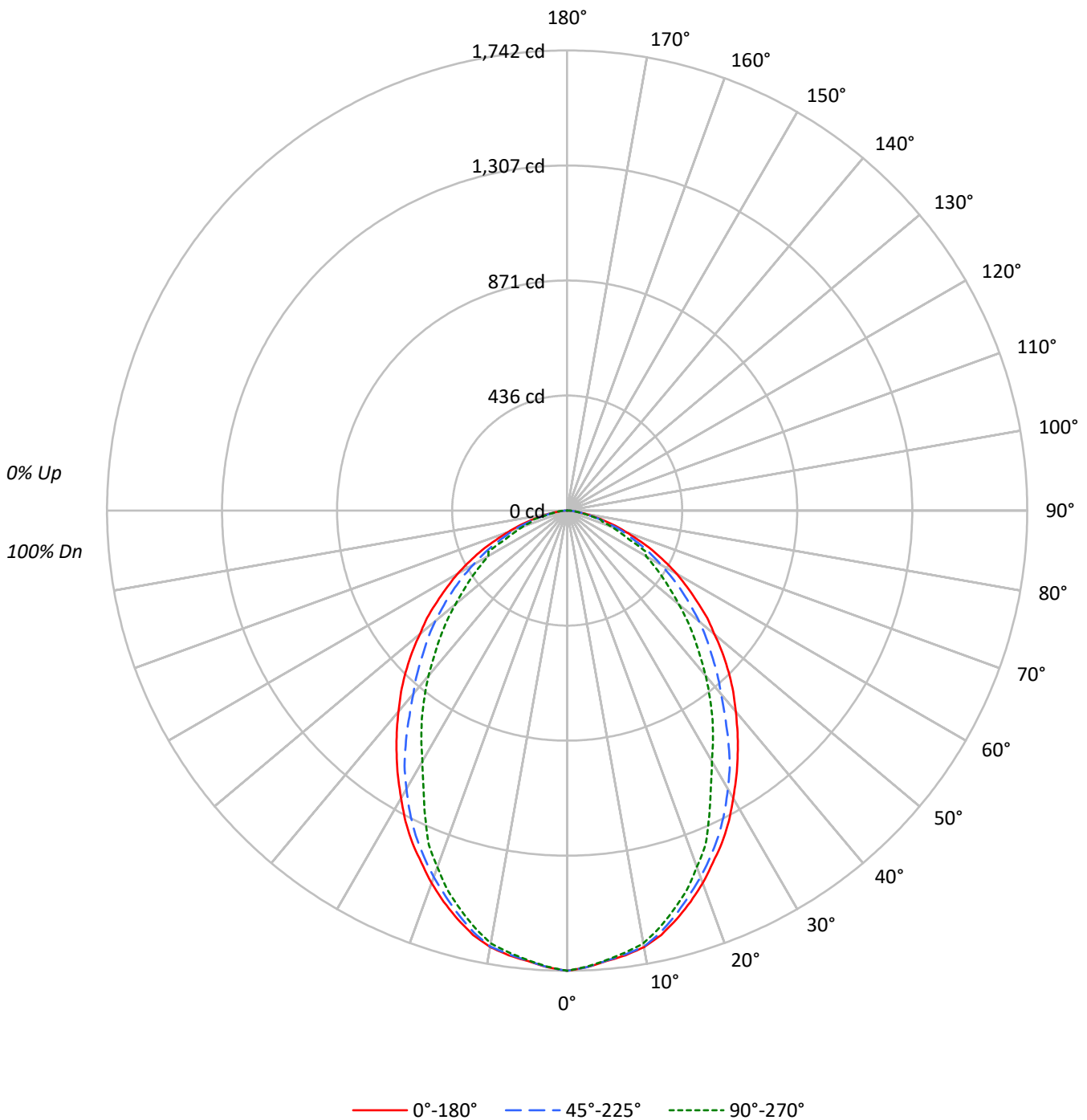
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4688	4688	4688
5°	4624	4619	4613
10°	4584	4579	4546
15°	4461	4416	4354
20°	4297	4228	4112
25°	4120	4030	3779
30°	3905	3780	3404
35°	3698	3493	3149
40°	3488	3184	2865
45°	3288	2943	2590
50°	3044	2732	2310
55°	2816	2476	2069
60°	2580	2211	1854
65°	2270	1936	1642
70°	1870	1696	1394
75°	1487	1299	1361
80°	998	936	874
85°	621	747	871

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3288 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.2	4.7
10°-20°	445.1	13.0
20°-30°	616.1	18.0
30°-40°	657.0	19.2
40°-50°	599.4	17.5
50°-60°	469.6	13.7
60°-70°	306.0	8.9
70°-80°	135.6	4.0
80°-90°	29.1	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°	1223.4	35.8
0°-40°	1880.4	55.0
0°-60°	2949.3	86.2
0°-90°	3420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3420.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1742	1742	1742	1742	1742	
5°	1712	1710	1710	1708	1708	162
15°	1601	1601	1585	1569	1563	450
25°	1388	1380	1357	1309	1273	637
35°	1126	1118	1063	983	959	704
45°	864	846	773	709	681	666
55°	600	582	528	465	441	538
65°	356	336	304	310	258	351
75°	143	133	125	119	131	153
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1742.1	1742.1	1742.1	1742.1	1742.1
2.5°	1730.0	1730.0	1730.0	1728.0	1728.0
5°	1711.9	1709.9	1709.9	1707.9	1707.9
7.5°	1697.8	1695.8	1693.8	1691.8	1687.7
10°	1677.7	1677.7	1675.6	1665.6	1663.6
12.5°	1645.4	1643.4	1635.4	1621.3	1617.2
15°	1601.1	1601.1	1585.0	1568.9	1562.9
17.5°	1552.8	1550.8	1530.6	1514.5	1506.5
20°	1500.4	1496.4	1476.3	1450.1	1436.0
22.5°	1442.0	1442.0	1417.8	1383.6	1369.5
25°	1387.6	1379.6	1357.4	1309.1	1272.8
27.5°	1325.2	1313.1	1289.0	1220.5	1178.2
30°	1256.7	1250.7	1216.5	1127.8	1095.6
32.5°	1192.3	1182.2	1146.0	1053.3	1027.1
35°	1125.8	1117.8	1063.4	982.8	958.7
37.5°	1059.4	1049.3	980.8	916.4	886.2
40°	992.9	980.8	906.3	847.9	815.7
42.5°	930.5	914.4	841.8	779.4	743.2
45°	864.0	845.9	773.4	708.9	680.7
47.5°	797.5	781.4	715.0	648.5	616.3
50°	727.1	713.0	652.5	586.1	551.8
52.5°	668.6	646.5	588.1	521.6	493.4
55°	600.2	582.0	527.7	465.2	441.1
57.5°	537.7	519.6	469.3	410.9	390.7
60°	479.3	453.1	410.9	360.5	344.4
62.5°	414.9	394.7	358.5	316.2	336.3
65°	356.5	336.3	304.1	310.2	257.8
67.5°	292.0	282.0	253.8	225.6	217.5
70°	237.7	225.6	215.5	185.3	177.2
72.5°	189.3	177.2	163.1	147.0	141.0
75°	143.0	132.9	124.9	118.8	130.9
77.5°	98.7	94.7	88.6	82.6	80.6
80°	64.4	62.4	60.4	58.4	56.4
82.5°	38.3	38.3	38.3	38.3	38.3
85°	20.1	22.2	24.2	26.2	28.2
87.5°	12.1	12.1	14.1	16.1	18.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)