

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: P560943

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560943
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-93-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4007.0 lumens
Efficiency: N/A
Efficacy: 92.8 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

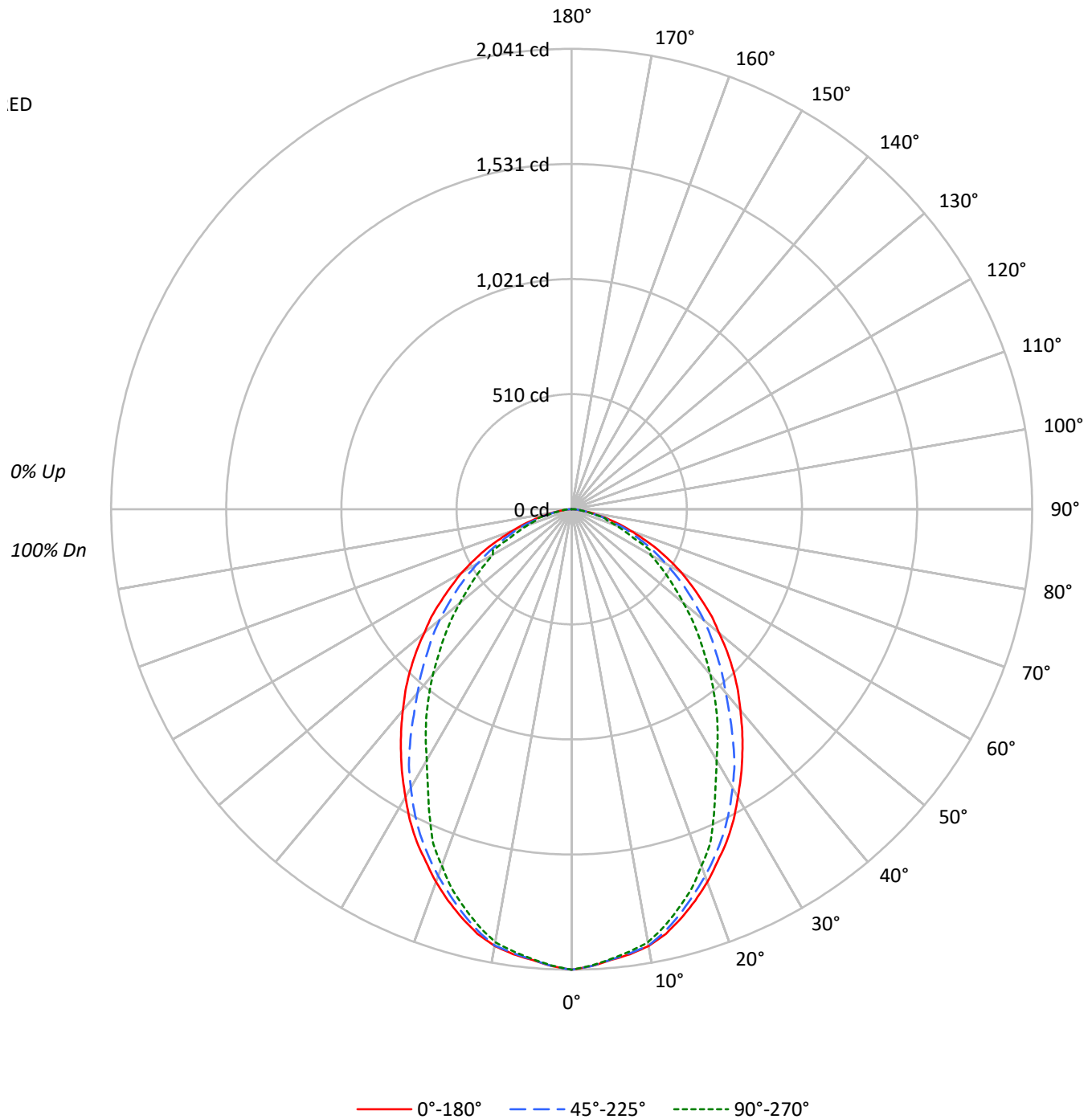
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	5493	5493	5493
5°	5418	5412	5405
10°	5371	5364	5326
15°	5226	5174	5101
20°	5034	4953	4818
25°	4827	4722	4428
30°	4575	4428	3989
35°	4333	4093	3690
40°	4086	3730	3357
45°	3852	3448	3035
50°	3566	3201	2707
55°	3299	2900	2425
60°	3023	2591	2172
65°	2660	2269	1923
70°	2190	1987	1634
75°	1742	1521	1595
80°	1170	1097	1024
85°	729	874	1019

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3852 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.0	4.7
10°-20°	521.4	13.0
20°-30°	721.9	18.0
30°-40°	769.8	19.2
40°-50°	702.2	17.5
50°-60°	550.1	13.7
60°-70°	358.6	8.9
70°-80°	158.9	4.0
80°-90°	34.1	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°	1433.3	35.8
0°-40°	2203.1	55.0
0°-60°	3455.5	86.2
0°-90°	4007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2041	2041	2041	2041	2041	
5°	2006	2003	2003	2001	2001	190
15°	1876	1876	1857	1838	1831	527
25°	1626	1616	1590	1534	1491	746
35°	1319	1310	1246	1152	1123	825
45°	1012	991	906	831	798	780
55°	703	682	618	545	517	631
65°	418	394	356	363	302	412
75°	168	156	146	139	153	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2041.1	2041.1	2041.1	2041.1	2041.1
2.5°	2027.0	2027.0	2027.0	2024.6	2024.6
5°	2005.7	2003.4	2003.4	2001.0	2001.0
7.5°	1989.2	1986.8	1984.5	1982.1	1977.4
10°	1965.6	1965.6	1963.2	1951.4	1949.1
12.5°	1927.8	1925.5	1916.0	1899.5	1894.8
15°	1875.9	1875.9	1857.1	1838.2	1831.1
17.5°	1819.3	1816.9	1793.3	1774.5	1765.0
20°	1758.0	1753.2	1729.6	1699.0	1682.4
22.5°	1689.5	1689.5	1661.2	1621.1	1604.6
25°	1625.8	1616.4	1590.4	1533.8	1491.3
27.5°	1552.7	1538.5	1510.2	1430.0	1380.4
30°	1472.4	1465.4	1425.2	1321.4	1283.7
32.5°	1396.9	1385.1	1342.7	1234.1	1203.4
35°	1319.1	1309.6	1245.9	1151.5	1123.2
37.5°	1241.2	1229.4	1149.2	1073.6	1038.3
40°	1163.3	1149.2	1061.9	993.4	955.7
42.5°	1090.2	1071.3	986.3	913.2	870.7
45°	1012.3	991.1	906.1	830.6	797.6
47.5°	934.4	915.6	837.7	759.8	722.1
50°	851.8	835.3	764.5	686.7	646.5
52.5°	783.4	757.5	689.0	611.2	578.1
55°	703.2	681.9	618.2	545.1	516.8
57.5°	630.0	608.8	549.8	481.4	457.8
60°	561.6	530.9	481.4	422.4	403.5
62.5°	486.1	462.5	420.0	370.5	394.1
65°	417.7	394.1	356.3	363.4	302.0
67.5°	342.2	330.4	297.3	264.3	254.8
70°	278.4	264.3	252.5	217.1	207.7
72.5°	221.8	207.7	191.1	172.3	165.2
75°	167.5	155.7	146.3	139.2	153.4
77.5°	115.6	110.9	103.8	96.7	94.4
80°	75.5	73.1	70.8	68.4	66.1
82.5°	44.8	44.8	44.8	44.8	44.8
85°	23.6	26.0	28.3	30.7	33.0
87.5°	14.2	14.2	16.5	18.9	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)