

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: P560765

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560765
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-35-UNV-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4038.0 lumens
Efficiency: N/A
Efficacy: 93.5 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

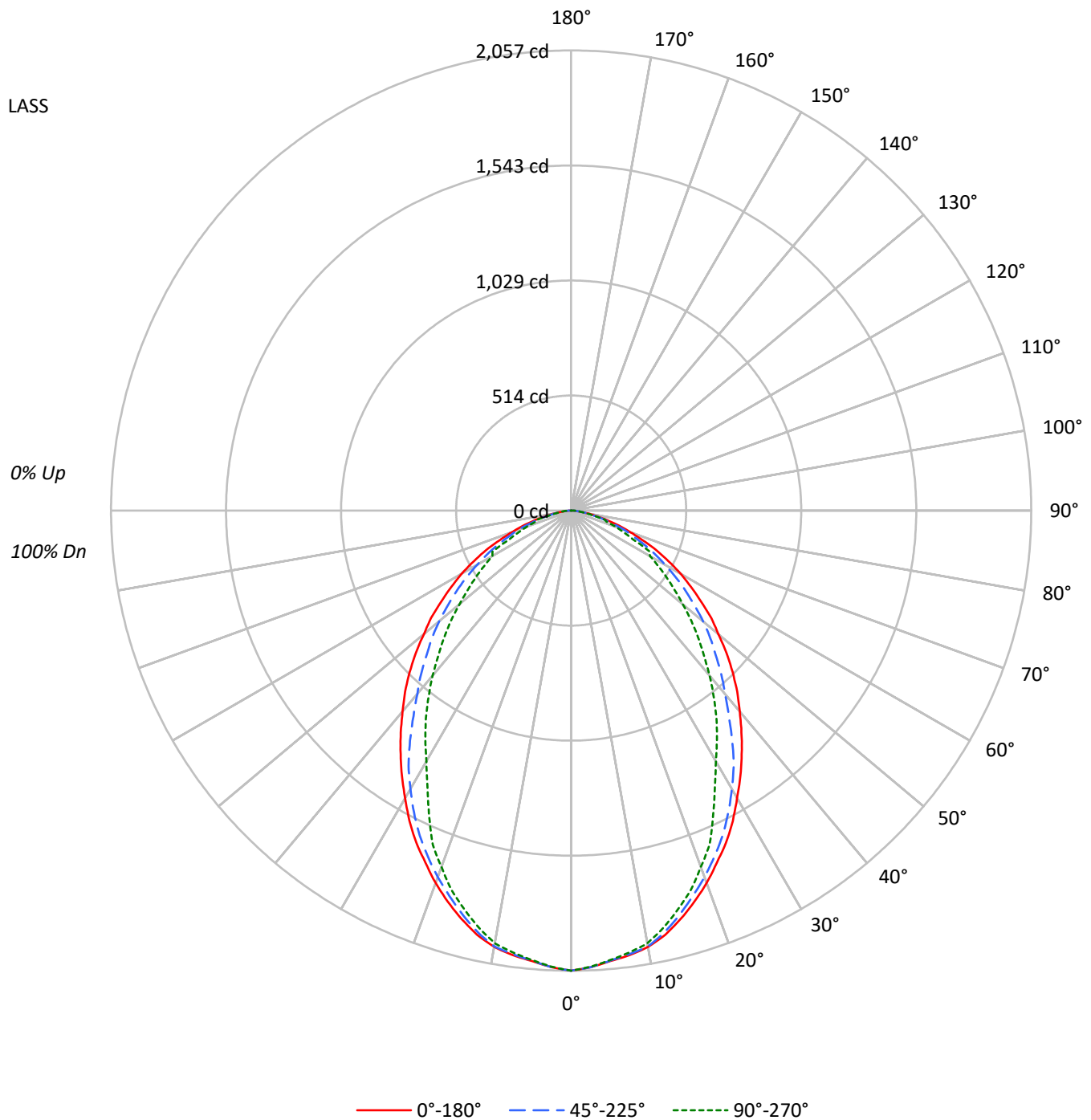
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5535	5535	5535
5°	5460	5454	5447
10°	5413	5406	5367
15°	5266	5214	5141
20°	5073	4991	4855
25°	4865	4759	4462
30°	4611	4463	4020
35°	4367	4124	3718
40°	4118	3759	3383
45°	3882	3475	3059
50°	3594	3225	2728
55°	3324	2923	2443
60°	3046	2611	2188
65°	2680	2287	1938
70°	2208	2002	1647
75°	1755	1533	1607
80°	1179	1105	1032
85°	735	880	1028

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3882 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.5	4.7
10°-20°	525.5	13.0
20°-30°	727.5	18.0
30°-40°	775.7	19.2
40°-50°	707.7	17.5
50°-60°	554.4	13.7
60°-70°	361.3	8.9
70°-80°	160.1	4.0
80°-90°	34.4	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°	1444.4	35.8
0°-40°	2220.1	55.0
0°-60°	3482.2	86.2
0°-90°	4038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4038.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2057	2057	2057	2057	2057	
5°	2021	2019	2019	2016	2016	192
15°	1890	1890	1871	1852	1845	531
25°	1638	1629	1603	1546	1503	752
35°	1329	1320	1256	1160	1132	831
45°	1020	999	913	837	804	786
55°	709	687	623	549	521	636
65°	421	397	359	366	304	415
75°	169	157	147	140	155	181
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°	2056.9	2056.9	2056.9	2056.9	2056.9
2.5°	2042.6	2042.6	2042.6	2040.3	2040.3
5°	2021.2	2018.9	2018.9	2016.5	2016.5
7.5°	2004.6	2002.2	1999.8	1997.5	1992.7
10°	1980.8	1980.8	1978.4	1966.5	1964.2
12.5°	1942.8	1940.4	1930.9	1914.2	1909.5
15°	1890.4	1890.4	1871.4	1852.4	1845.3
17.5°	1833.4	1831.0	1807.2	1788.2	1778.7
20°	1771.6	1766.8	1743.0	1712.1	1695.5
22.5°	1702.6	1702.6	1674.1	1633.6	1617.0
25°	1638.4	1628.9	1602.7	1545.6	1502.8
27.5°	1564.7	1550.4	1521.9	1441.0	1391.1
30°	1483.8	1476.7	1436.3	1331.6	1293.6
32.5°	1407.7	1395.8	1353.0	1243.7	1212.7
35°	1329.3	1319.7	1255.5	1160.4	1131.9
37.5°	1250.8	1238.9	1158.0	1082.0	1046.3
40°	1172.3	1158.0	1070.1	1001.1	963.1
42.5°	1098.6	1079.6	994.0	920.3	877.5
45°	1020.1	998.7	913.1	837.0	803.7
47.5°	941.7	922.6	844.2	765.7	727.6
50°	858.4	841.8	770.4	692.0	651.6
52.5°	789.5	763.3	694.4	615.9	582.6
55°	708.6	687.2	623.0	549.3	520.8
57.5°	634.9	613.5	554.1	485.1	461.3
60°	565.9	535.0	485.1	425.6	406.6
62.5°	489.9	466.1	423.3	373.3	397.1
65°	420.9	397.1	359.1	366.2	304.4
67.5°	344.8	332.9	299.6	266.3	256.8
70°	280.6	266.3	254.4	218.8	209.3
72.5°	223.5	209.3	192.6	173.6	166.5
75°	168.8	156.9	147.4	140.3	154.6
77.5°	116.5	111.8	104.6	97.5	95.1
80°	76.1	73.7	71.3	69.0	66.6
82.5°	45.2	45.2	45.2	45.2	45.2
85°	23.8	26.2	28.5	30.9	33.3
87.5°	14.3	14.3	16.6	19.0	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)