

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: P561788

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561788
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-LD4-2STD-40-UNV-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5588.0 lumens
Efficiency: N/A
Efficacy: 83.9 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

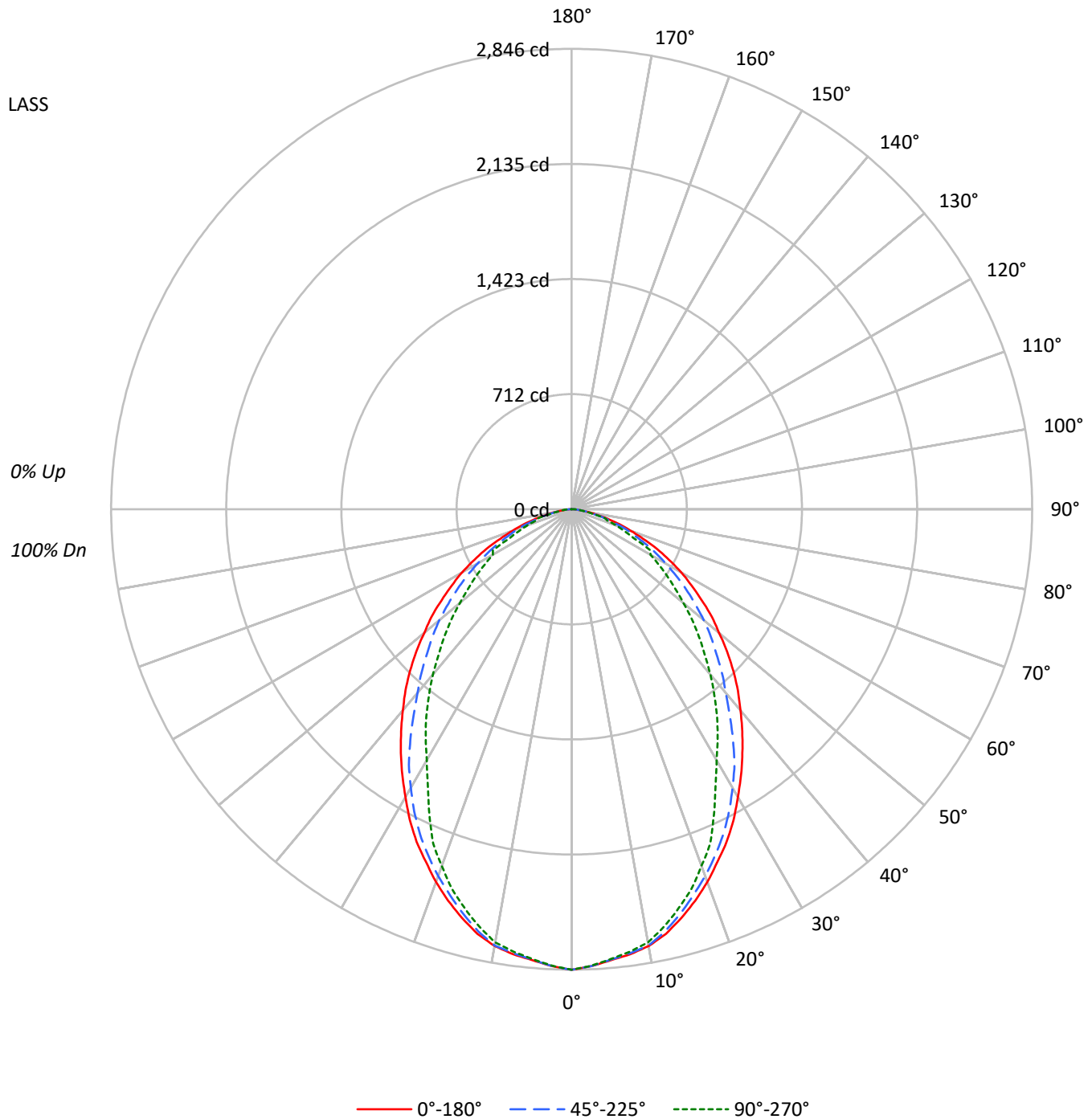
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7660	7660	7660
5°	7556	7547	7538
10°	7490	7481	7427
15°	7288	7215	7114
20°	7021	6907	6719
25°	6732	6585	6175
30°	6380	6176	5562
35°	6043	5708	5146
40°	5699	5202	4682
45°	5372	4809	4233
50°	4973	4464	3775
55°	4601	4045	3381
60°	4215	3613	3028
65°	3709	3164	2682
70°	3055	2770	2279
75°	2429	2121	2224
80°	1632	1530	1427
85°	1016	1220	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5372 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.0	4.7
10°-20°	727.2	13.0
20°-30°	1006.7	18.0
30°-40°	1073.5	19.2
40°-50°	979.3	17.5
50°-60°	767.2	13.7
60°-70°	500.0	8.9
70°-80°	221.5	4.0
80°-90°	47.5	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°	1998.9	35.8
0°-40°	3072.3	55.0
0°-60°	4818.9	86.2
0°-90°	5588.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5588.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2846	2846	2846	2846	2846	
5°	2797	2794	2794	2790	2790	266
15°	2616	2616	2590	2564	2554	735
25°	2267	2254	2218	2139	2080	1041
35°	1840	1826	1738	1606	1566	1150
45°	1412	1382	1264	1158	1112	1087
55°	981	951	862	760	721	880
65°	582	550	497	507	421	574
75°	234	217	204	194	214	250
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2846.5	2846.5	2846.5	2846.5	2846.5
2.5°	2826.7	2826.7	2826.7	2823.4	2823.4
5°	2797.1	2793.8	2793.8	2790.5	2790.5
7.5°	2774.1	2770.8	2767.5	2764.2	2757.6
10°	2741.2	2741.2	2737.9	2721.4	2718.1
12.5°	2688.5	2685.2	2672.0	2649.0	2642.4
15°	2616.1	2616.1	2589.8	2563.5	2553.6
17.5°	2537.1	2533.8	2500.9	2474.6	2461.4
20°	2451.6	2445.0	2412.1	2369.3	2346.3
22.5°	2356.1	2356.1	2316.7	2260.7	2237.7
25°	2267.3	2254.1	2217.9	2139.0	2079.7
27.5°	2165.3	2145.5	2106.0	1994.2	1925.1
30°	2053.4	2043.5	1987.6	1842.8	1790.1
32.5°	1948.1	1931.6	1872.4	1721.0	1678.3
35°	1839.5	1826.3	1737.5	1605.9	1566.4
37.5°	1730.9	1714.5	1602.6	1497.3	1447.9
40°	1622.3	1602.6	1480.8	1385.4	1332.7
42.5°	1520.3	1494.0	1375.5	1273.5	1214.3
45°	1411.7	1382.1	1263.6	1158.3	1112.3
47.5°	1303.1	1276.8	1168.2	1059.6	1007.0
50°	1187.9	1164.9	1066.2	957.6	901.7
52.5°	1092.5	1056.3	960.9	852.3	806.2
55°	980.6	951.0	862.2	760.2	720.7
57.5°	878.6	849.0	766.7	671.3	638.4
60°	783.2	740.4	671.3	589.0	562.7
62.5°	677.9	645.0	585.7	516.6	549.5
65°	582.5	549.5	496.9	506.8	421.2
67.5°	477.2	460.7	414.6	368.6	355.4
70°	388.3	368.6	352.1	302.7	289.6
72.5°	309.3	289.6	266.5	240.2	230.3
75°	233.6	217.2	204.0	194.2	213.9
77.5°	161.2	154.7	144.8	134.9	131.6
80°	105.3	102.0	98.7	95.4	92.1
82.5°	62.5	62.5	62.5	62.5	62.5
85°	32.9	36.2	39.5	42.8	46.1
87.5°	19.7	19.7	23.0	26.3	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)