

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: P561790

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561790
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-80-97-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 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: 5387.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

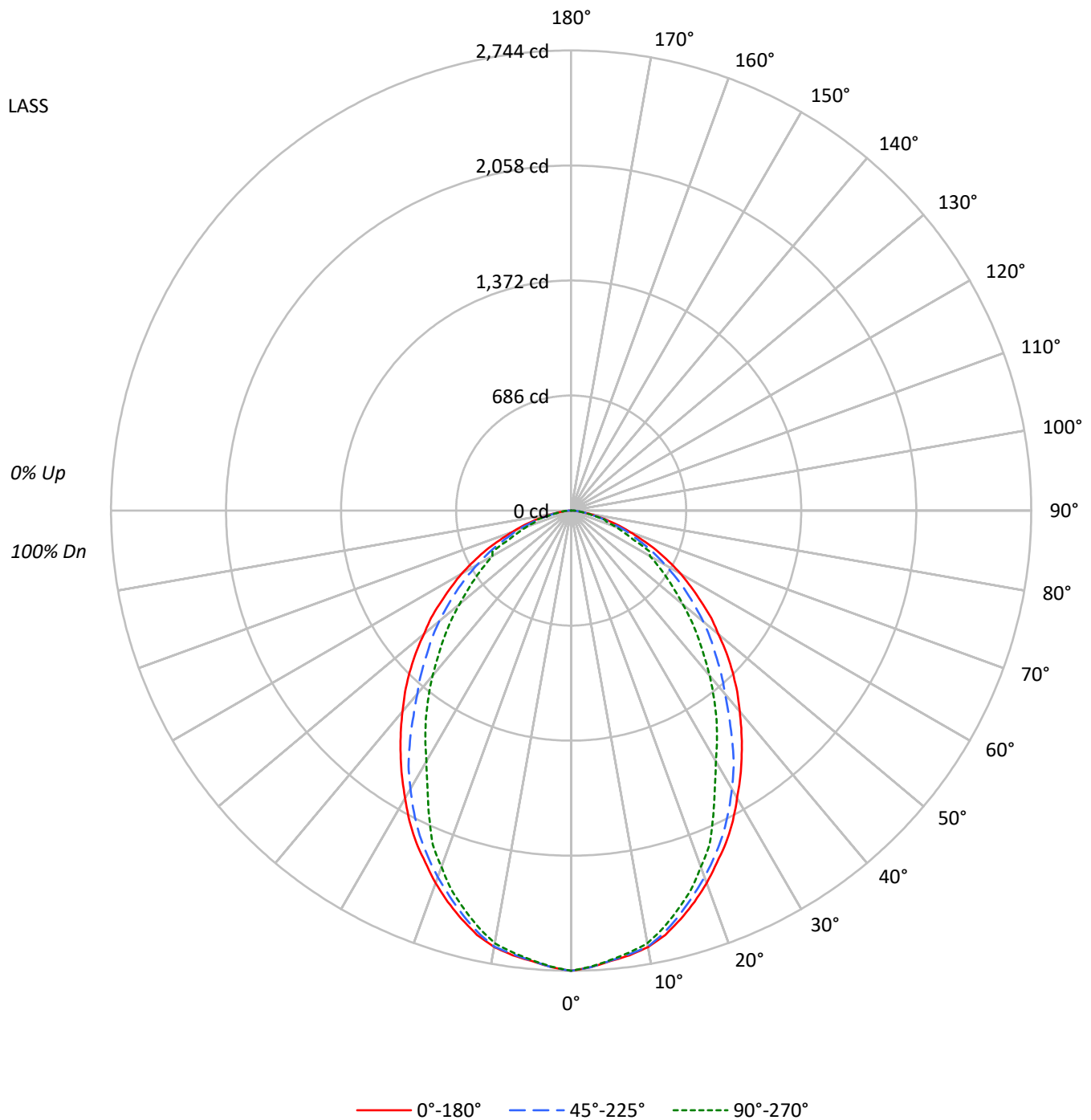
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7384	7384	7384
5°	7284	7275	7267
10°	7221	7212	7160
15°	7026	6955	6858
20°	6768	6659	6477
25°	6490	6349	5953
30°	6151	5954	5362
35°	5825	5503	4960
40°	5494	5015	4513
45°	5179	4636	4080
50°	4794	4303	3639
55°	4435	3900	3259
60°	4063	3483	2920
65°	3575	3050	2586
70°	2945	2670	2197
75°	2341	2045	2144
80°	1573	1475	1376
85°	979	1176	1371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5179 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	255.4	4.7
10°-20°	701.0	13.0
20°-30°	970.5	18.0
30°-40°	1034.8	19.2
40°-50°	944.1	17.5
50°-60°	739.6	13.7
60°-70°	482.1	8.9
70°-80°	213.6	4.0
80°-90°	45.9	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°	1927.0	35.8
0°-40°	2961.8	55.0
0°-60°	4645.5	86.2
0°-90°	5387.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5387.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2744	2744	2744	2744	2744	
5°	2696	2693	2693	2690	2690	256
15°	2522	2522	2497	2471	2462	709
25°	2186	2173	2138	2062	2005	1003
35°	1773	1761	1675	1548	1510	1109
45°	1361	1332	1218	1117	1072	1048
55°	945	917	831	733	695	848
65°	562	530	479	488	406	553
75°	225	209	197	187	206	241
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2744.1	2744.1	2744.1	2744.1	2744.1
2.5°	2725.0	2725.0	2725.0	2721.9	2721.9
5°	2696.5	2693.3	2693.3	2690.1	2690.1
7.5°	2674.3	2671.1	2667.9	2664.8	2658.4
10°	2642.6	2642.6	2639.4	2623.5	2620.3
12.5°	2591.8	2588.6	2575.9	2553.7	2547.4
15°	2522.0	2522.0	2496.6	2471.2	2461.7
17.5°	2445.9	2442.7	2411.0	2385.6	2372.9
20°	2363.4	2357.0	2325.3	2284.1	2261.9
22.5°	2271.4	2271.4	2233.3	2179.4	2157.2
25°	2185.7	2173.0	2138.2	2062.0	2004.9
27.5°	2087.4	2068.4	2030.3	1922.4	1855.8
30°	1979.5	1970.0	1916.1	1776.5	1725.7
32.5°	1878.0	1862.2	1805.1	1659.1	1617.9
35°	1773.3	1760.6	1675.0	1548.1	1510.0
37.5°	1668.6	1652.8	1544.9	1443.4	1395.8
40°	1564.0	1544.9	1427.5	1335.6	1284.8
42.5°	1465.6	1440.2	1326.0	1227.7	1170.6
45°	1360.9	1332.4	1218.2	1116.7	1072.2
47.5°	1256.2	1230.9	1126.2	1021.5	970.7
50°	1145.2	1123.0	1027.8	923.1	869.2
52.5°	1053.2	1018.3	926.3	821.6	777.2
55°	945.4	916.8	831.2	732.8	694.7
57.5°	847.0	818.5	739.2	647.2	615.4
60°	755.0	713.8	647.2	567.8	542.5
62.5°	653.5	621.8	564.7	498.1	529.8
65°	561.5	529.8	479.0	488.5	406.1
67.5°	460.0	444.1	399.7	355.3	342.6
70°	374.3	355.3	339.4	291.9	279.2
72.5°	298.2	279.2	257.0	231.6	222.1
75°	225.2	209.4	196.7	187.2	206.2
77.5°	155.4	149.1	139.6	130.1	126.9
80°	101.5	98.3	95.2	92.0	88.8
82.5°	60.3	60.3	60.3	60.3	60.3
85°	31.7	34.9	38.1	41.2	44.4
87.5°	19.0	19.0	22.2	25.4	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)