

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: P561898

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561898
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-50-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5962.0 lumens
Efficiency: N/A
Efficacy: 89.5 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

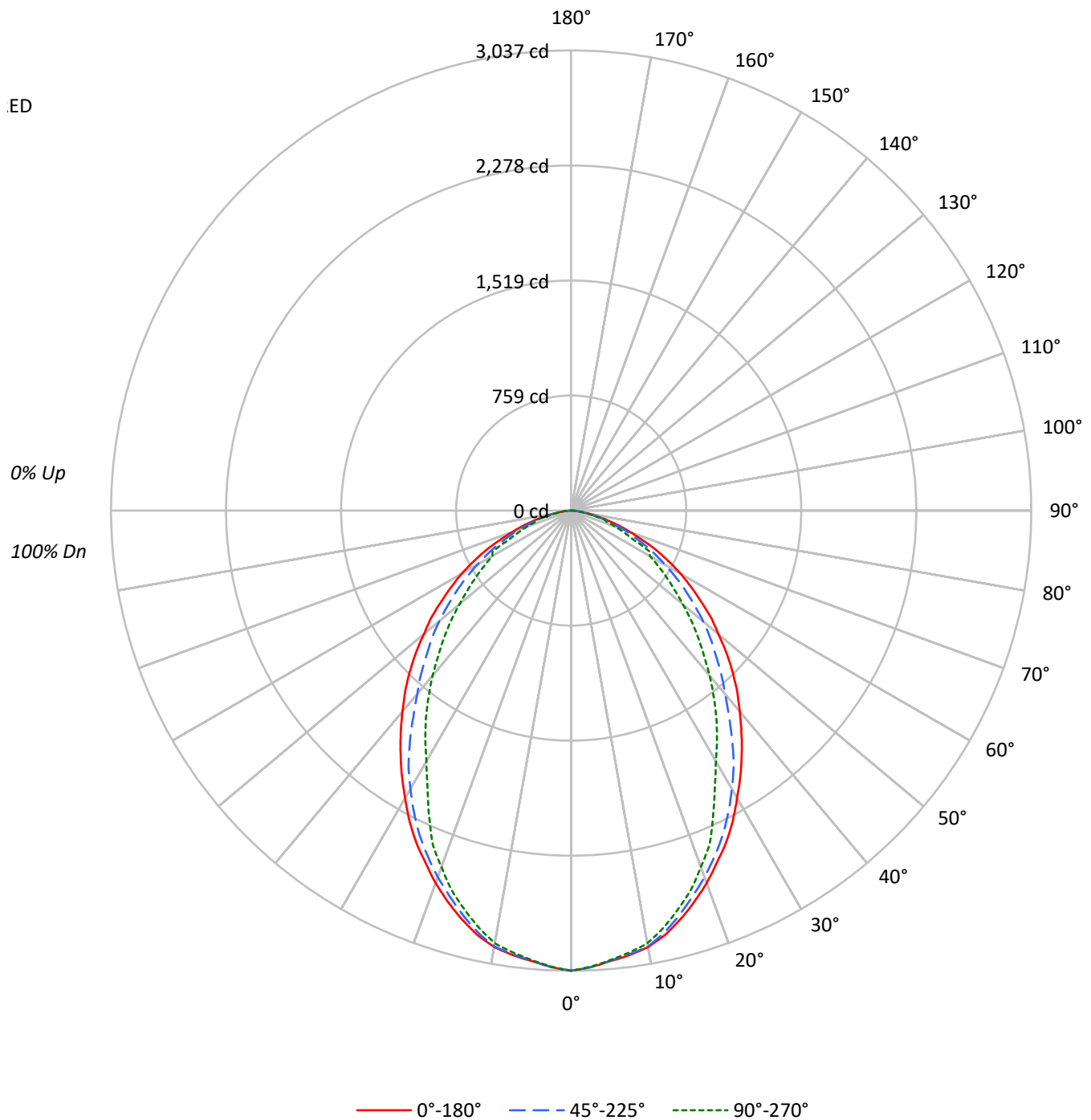
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8173	8173	8173
5°	8061	8052	8042
10°	7991	7982	7924
15°	7776	7698	7590
20°	7491	7370	7169
25°	7182	7026	6588
30°	6807	6589	5935
35°	6447	6090	5490
40°	6080	5550	4995
45°	5732	5131	4516
50°	5306	4762	4027
55°	4909	4316	3607
60°	4497	3855	3231
65°	3957	3376	2862
70°	3260	2956	2431
75°	2592	2263	2373
80°	1742	1632	1523
85°	1084	1300	1519

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5732 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	282.7	4.7
10°-20°	775.8	13.0
20°-30°	1074.1	18.0
30°-40°	1145.3	19.2
40°-50°	1044.9	17.5
50°-60°	818.6	13.7
60°-70°	533.5	8.9
70°-80°	236.4	4.0
80°-90°	50.7	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°	2132.6	35.8
0°-40°	3278.0	55.0
0°-60°	5141.4	86.2
0°-90°	5962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5962.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3037	3037	3037	3037	3037	
5°	2984	2981	2981	2977	2977	283
15°	2791	2791	2763	2735	2724	785
25°	2419	2405	2366	2282	2219	1111
35°	1963	1949	1854	1713	1671	1227
45°	1506	1475	1348	1236	1187	1160
55°	1046	1015	920	811	769	938
65°	621	586	530	541	449	612
75°	249	232	218	207	228	267
85°	35	39	42	46	49	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3037.0	3037.0	3037.0	3037.0	3037.0
2.5°	3015.9	3015.9	3015.9	3012.4	3012.4
5°	2984.3	2980.8	2980.8	2977.3	2977.3
7.5°	2959.7	2956.2	2952.7	2949.2	2942.2
10°	2924.6	2924.6	2921.1	2903.5	2900.0
12.5°	2868.4	2864.9	2850.9	2826.3	2819.3
15°	2791.2	2791.2	2763.1	2735.0	2724.5
17.5°	2706.9	2703.4	2668.3	2640.2	2626.2
20°	2615.7	2608.6	2573.5	2527.9	2503.3
22.5°	2513.8	2513.8	2471.7	2412.0	2387.4
25°	2419.0	2405.0	2366.4	2282.1	2218.9
27.5°	2310.2	2289.1	2247.0	2127.6	2053.9
30°	2190.8	2180.3	2120.6	1966.1	1910.0
32.5°	2078.5	2060.9	1997.7	1836.2	1790.6
35°	1962.6	1948.6	1853.8	1713.3	1671.2
37.5°	1846.8	1829.2	1709.8	1597.5	1544.8
40°	1730.9	1709.8	1579.9	1478.1	1421.9
42.5°	1622.1	1594.0	1467.6	1358.7	1295.5
45°	1506.2	1474.6	1348.2	1235.9	1186.7
47.5°	1390.3	1362.2	1246.4	1130.5	1074.3
50°	1267.4	1242.9	1137.5	1021.7	962.0
52.5°	1165.6	1127.0	1025.2	909.3	860.2
55°	1046.3	1014.7	919.9	811.0	768.9
57.5°	937.4	905.8	818.0	716.2	681.1
60°	835.6	790.0	716.2	628.5	600.4
62.5°	723.3	688.1	624.9	551.2	586.3
65°	621.4	586.3	530.2	540.7	449.4
67.5°	509.1	491.5	442.4	393.2	379.2
70°	414.3	393.2	375.7	323.0	309.0
72.5°	330.0	309.0	284.4	256.3	245.8
75°	249.3	231.7	217.7	207.1	228.2
77.5°	172.0	165.0	154.5	143.9	140.4
80°	112.4	108.8	105.3	101.8	98.3
82.5°	66.7	66.7	66.7	66.7	66.7
85°	35.1	38.6	42.1	45.6	49.2
87.5°	21.1	21.1	24.6	28.1	31.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)