

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: P561997

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561997
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-24-4-LD4-1HI-35-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4507.0 lumens
Efficiency: N/A
Efficacy: 104.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

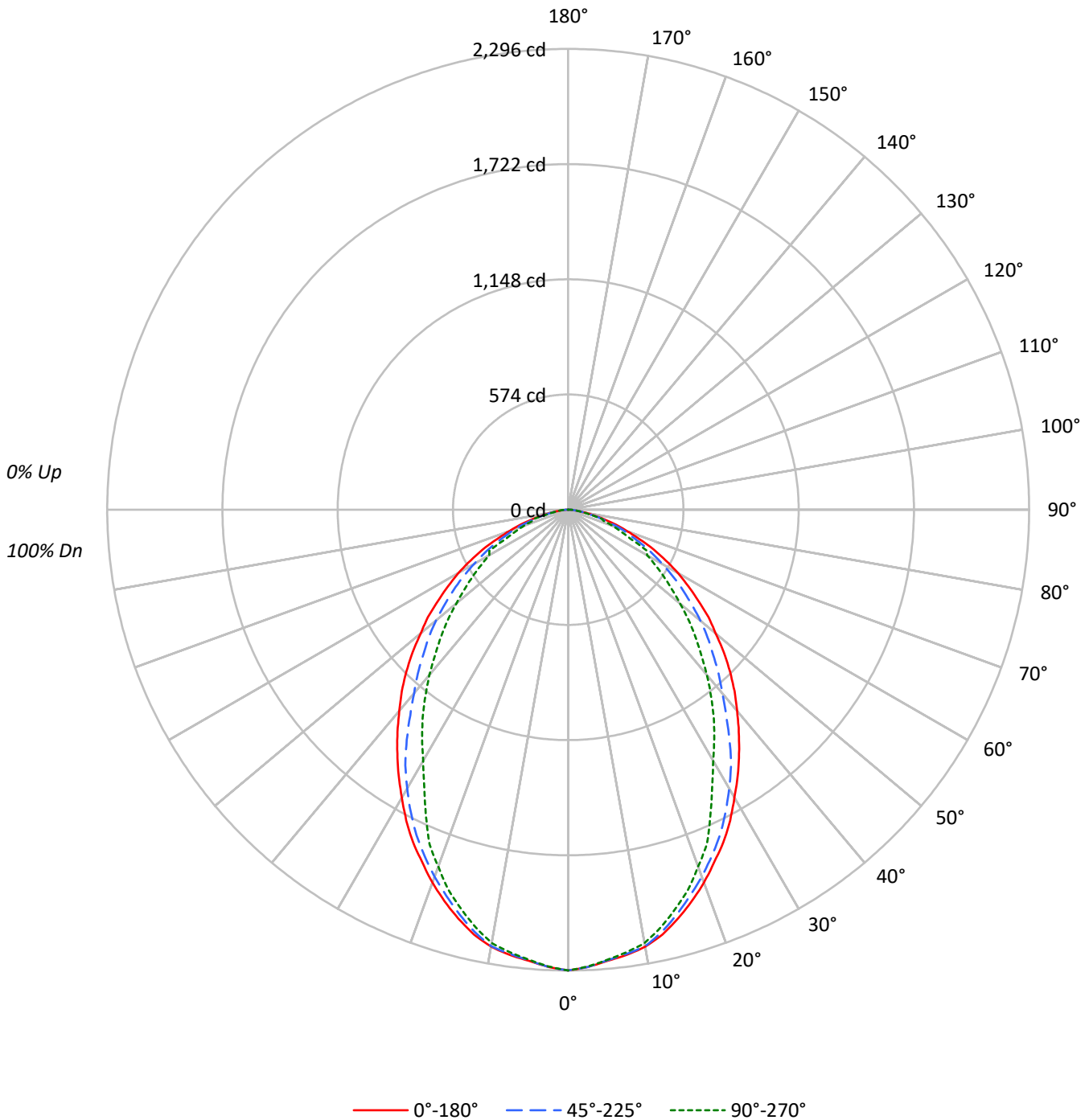
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3089	3089	3089
5°	3047	3043	3040
10°	3021	3017	2995
15°	2939	2910	2869
20°	2831	2786	2710
25°	2715	2656	2490
30°	2573	2491	2243
35°	2437	2302	2075
40°	2298	2098	1888
45°	2167	1939	1707
50°	2006	1800	1522
55°	1855	1631	1364
60°	1700	1457	1221
65°	1496	1276	1082
70°	1232	1117	919
75°	979	856	897
80°	658	617	576
85°	409	491	574

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2167 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.7	4.7
10°-20°	586.5	13.0
20°-30°	812.0	18.0
30°-40°	865.8	19.2
40°-50°	789.9	17.5
50°-60°	618.8	13.7
60°-70°	403.3	8.9
70°-80°	178.7	4.0
80°-90°	38.3	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°	1612.2	35.8
0°-40°	2478.0	55.0
0°-60°	3886.7	86.2
0°-90°	4507.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4507.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2296	2296	2296	2296	2296	
5°	2256	2253	2253	2251	2251	214
15°	2110	2110	2089	2068	2060	593
25°	1829	1818	1789	1725	1677	840
35°	1484	1473	1401	1295	1263	928
45°	1139	1115	1019	934	897	877
55°	791	767	695	613	581	709
65°	470	443	401	409	340	463
75°	188	175	165	157	172	202
85°	26	29	32	34	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2295.8	2295.8	2295.8	2295.8	2295.8
2.5°	2279.9	2279.9	2279.9	2277.2	2277.2
5°	2256.0	2253.3	2253.3	2250.7	2250.7
7.5°	2237.4	2234.8	2232.1	2229.5	2224.1
10°	2210.9	2210.9	2208.2	2194.9	2192.3
12.5°	2168.4	2165.8	2155.1	2136.6	2131.3
15°	2110.0	2110.0	2088.8	2067.6	2059.6
17.5°	2046.3	2043.7	2017.1	1995.9	1985.3
20°	1977.3	1972.0	1945.5	1911.0	1892.4
22.5°	1900.3	1900.3	1868.5	1823.4	1804.8
25°	1828.7	1818.1	1788.9	1725.2	1677.4
27.5°	1746.4	1730.5	1698.6	1608.4	1552.7
30°	1656.2	1648.2	1603.1	1486.3	1443.8
32.5°	1571.2	1558.0	1510.2	1388.1	1353.6
35°	1483.6	1473.0	1401.4	1295.2	1263.4
37.5°	1396.1	1382.8	1292.6	1207.6	1167.8
40°	1308.5	1292.6	1194.3	1117.4	1074.9
42.5°	1226.2	1205.0	1109.4	1027.1	979.4
45°	1138.6	1114.7	1019.2	934.2	897.1
47.5°	1051.0	1029.8	942.2	854.6	812.2
50°	958.1	939.6	859.9	772.3	727.2
52.5°	881.2	852.0	775.0	687.4	650.3
55°	790.9	767.0	695.4	613.1	581.3
57.5°	708.6	684.8	618.4	541.4	514.9
60°	631.7	597.2	541.4	475.1	453.9
62.5°	546.7	520.2	472.4	416.7	443.2
65°	469.8	443.2	400.8	408.7	339.7
67.5°	384.8	371.6	334.4	297.3	286.6
70°	313.2	297.3	284.0	244.2	233.6
72.5°	249.5	233.6	215.0	193.8	185.8
75°	188.4	175.2	164.6	156.6	172.5
77.5°	130.1	124.7	116.8	108.8	106.2
80°	84.9	82.3	79.6	77.0	74.3
82.5°	50.4	50.4	50.4	50.4	50.4
85°	26.5	29.2	31.8	34.5	37.2
87.5°	15.9	15.9	18.6	21.2	23.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)