

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: P562094

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562094
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-40-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3890.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

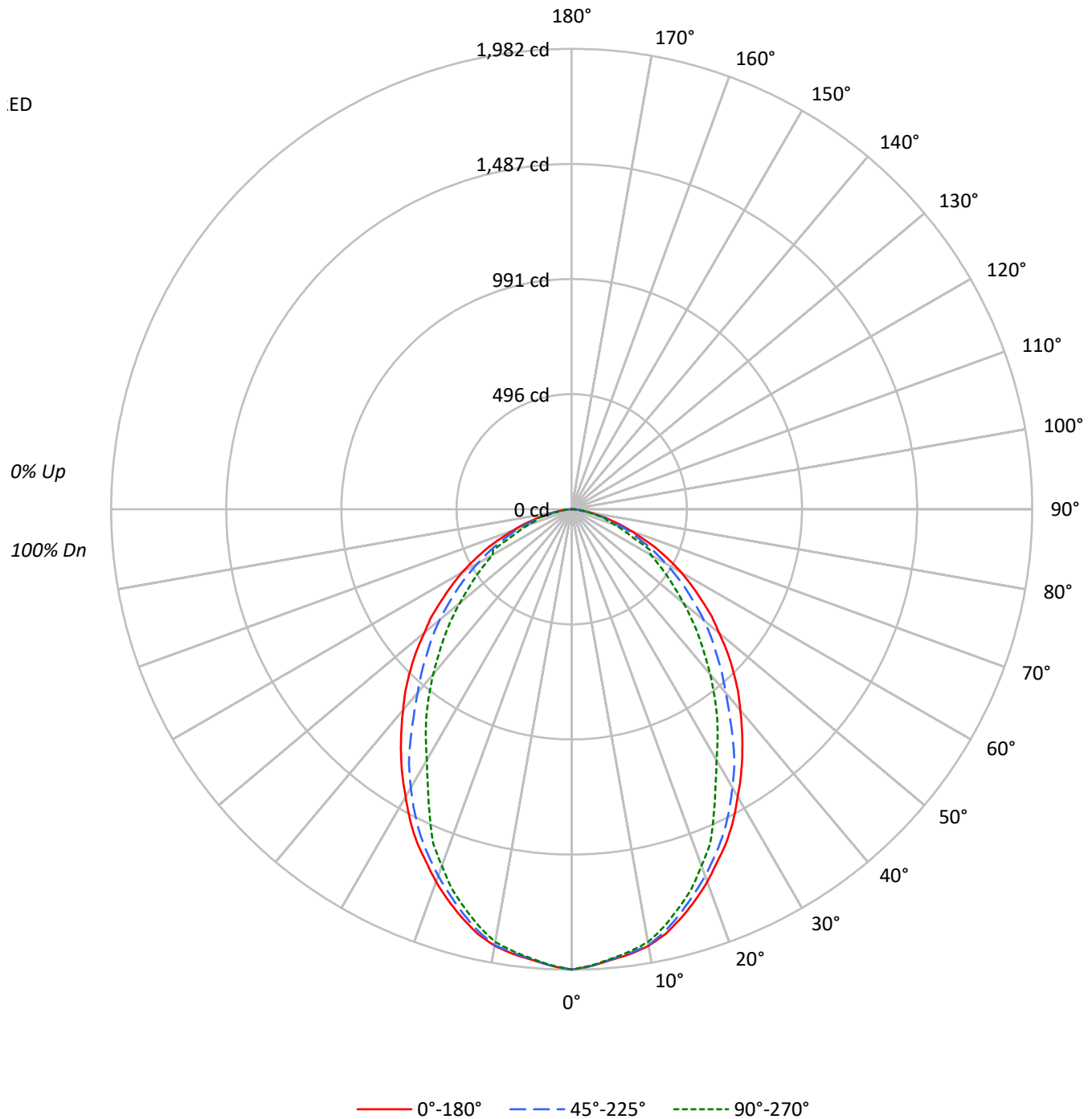
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2666	2666	2666
5°	2630	2627	2624
10°	2607	2604	2585
15°	2537	2511	2476
20°	2444	2404	2339
25°	2343	2292	2149
30°	2221	2150	1936
35°	2103	1987	1791
40°	1984	1811	1630
45°	1870	1674	1473
50°	1731	1554	1314
55°	1601	1408	1177
60°	1467	1257	1054
65°	1291	1101	933
70°	1063	964	793
75°	845	738	774
80°	568	532	497
85°	354	425	496

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1870 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.5	4.7
10°-20°	506.2	13.0
20°-30°	700.8	18.0
30°-40°	747.3	19.2
40°-50°	681.7	17.5
50°-60°	534.1	13.7
60°-70°	348.1	8.9
70°-80°	154.2	4.0
80°-90°	33.1	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°	1391.5	35.8
0°-40°	2138.8	55.0
0°-60°	3354.6	86.2
0°-90°	3890.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3890.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1982	1982	1982	1982	1982	
5°	1947	1945	1945	1943	1943	185
15°	1821	1821	1803	1784	1778	512
25°	1578	1569	1544	1489	1448	725
35°	1280	1271	1210	1118	1090	801
45°	983	962	880	806	774	757
55°	683	662	600	529	502	612
65°	406	383	346	353	293	400
75°	163	151	142	135	149	174
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1981.5	1981.5	1981.5	1981.5	1981.5
2.5°	1967.8	1967.8	1967.8	1965.5	1965.5
5°	1947.2	1944.9	1944.9	1942.6	1942.6
7.5°	1931.1	1928.8	1926.5	1924.2	1919.7
10°	1908.2	1908.2	1905.9	1894.5	1892.2
12.5°	1871.6	1869.3	1860.1	1844.1	1839.5
15°	1821.2	1821.2	1802.8	1784.5	1777.6
17.5°	1766.2	1763.9	1741.0	1722.7	1713.5
20°	1706.6	1702.0	1679.1	1649.4	1633.3
22.5°	1640.2	1640.2	1612.7	1573.8	1557.7
25°	1578.3	1569.2	1544.0	1489.0	1447.8
27.5°	1507.3	1493.6	1466.1	1388.2	1340.1
30°	1429.4	1422.6	1383.6	1282.8	1246.2
32.5°	1356.1	1344.7	1303.4	1198.1	1168.3
35°	1280.5	1271.4	1209.5	1117.9	1090.4
37.5°	1204.9	1193.5	1115.6	1042.3	1007.9
40°	1129.3	1115.6	1030.8	964.4	927.8
42.5°	1058.3	1040.0	957.5	886.5	845.3
45°	982.7	962.1	879.7	806.4	774.3
47.5°	907.1	888.8	813.2	737.6	701.0
50°	827.0	810.9	742.2	666.6	627.7
52.5°	760.5	735.3	668.9	593.3	561.2
55°	682.6	662.0	600.2	529.2	501.7
57.5°	611.6	591.0	533.7	467.3	444.4
60°	545.2	515.4	467.3	410.0	391.7
62.5°	471.9	449.0	407.8	359.7	382.6
65°	405.5	382.6	345.9	352.8	293.2
67.5°	332.2	320.7	288.6	256.6	247.4
70°	270.3	256.6	245.1	210.8	201.6
72.5°	215.3	201.6	185.6	167.2	160.4
75°	162.6	151.2	142.0	135.2	148.9
77.5°	112.2	107.7	100.8	93.9	91.6
80°	73.3	71.0	68.7	66.4	64.1
82.5°	43.5	43.5	43.5	43.5	43.5
85°	22.9	25.2	27.5	29.8	32.1
87.5°	13.7	13.7	16.0	18.3	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)