

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: P562722

Luminaire Tested: FSR-24-4-LD4-2LO-35-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562722
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-LD4-2LO-35-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4789.0 lumens
Efficiency: N/A
Efficacy: 102.3 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

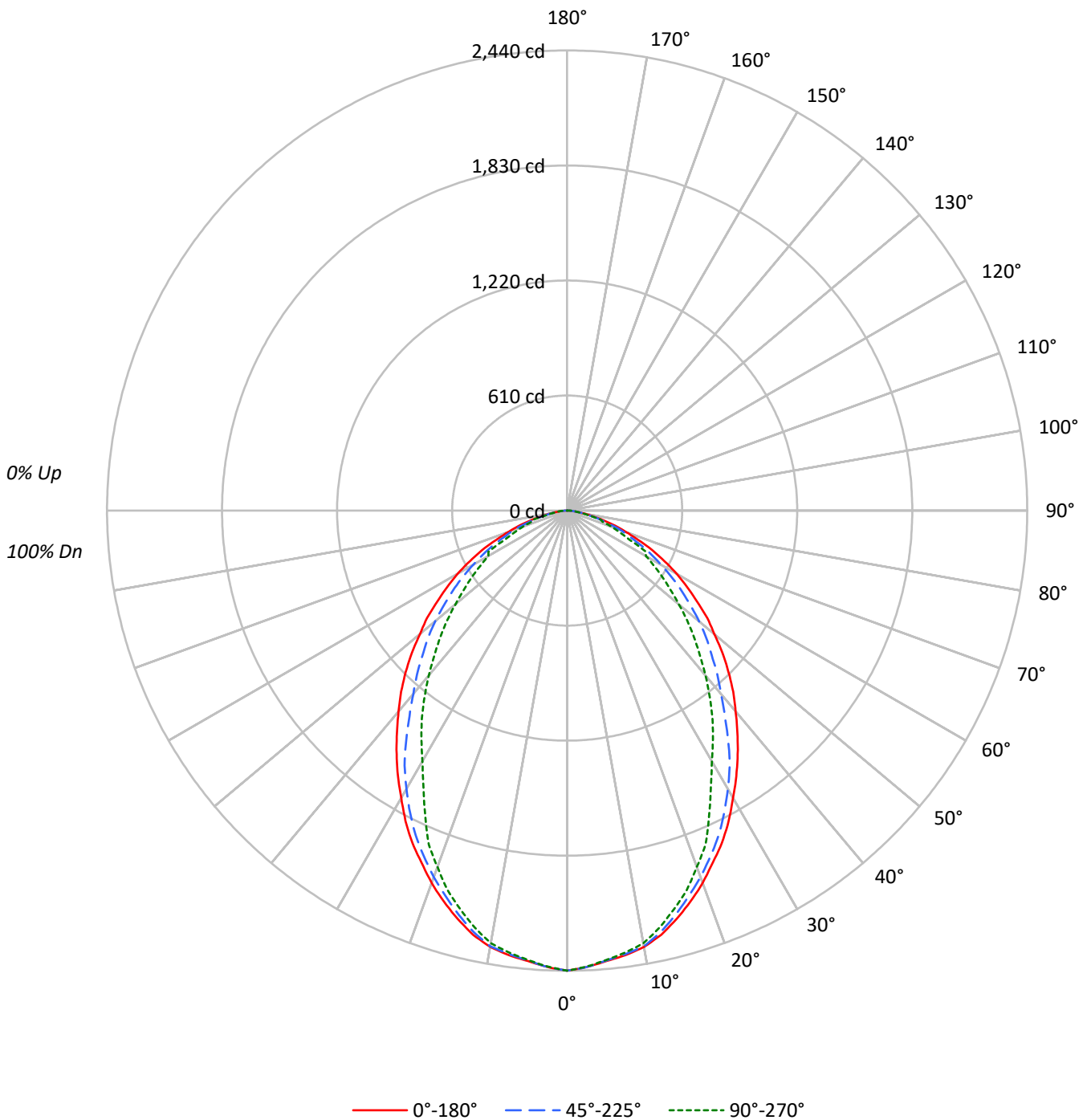
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3282	3282	3282
5°	3238	3234	3230
10°	3210	3206	3183
15°	3123	3092	3048
20°	3008	2960	2879
25°	2885	2822	2646
30°	2734	2646	2384
35°	2589	2446	2205
40°	2442	2229	2006
45°	2302	2061	1814
50°	2131	1913	1617
55°	1971	1733	1449
60°	1806	1548	1298
65°	1589	1356	1149
70°	1309	1187	976
75°	1041	909	953
80°	699	656	612
85°	435	522	610

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2302 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.1	4.7
10°-20°	623.2	13.0
20°-30°	862.8	18.0
30°-40°	920.0	19.2
40°-50°	839.3	17.5
50°-60°	657.5	13.7
60°-70°	428.5	8.9
70°-80°	189.9	4.0
80°-90°	40.8	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°	1713.1	35.8
0°-40°	2633.0	55.0
0°-60°	4129.8	86.2
0°-90°	4789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4789.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2440	2440	2440	2440	2440	
5°	2397	2394	2394	2392	2392	228
15°	2242	2242	2220	2197	2188	630
25°	1943	1932	1901	1833	1782	892
35°	1576	1565	1489	1376	1342	986
45°	1210	1184	1083	993	953	932
55°	840	815	739	652	618	754
65°	499	471	426	434	361	492
75°	200	186	175	166	183	215
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2439.5	2439.5	2439.5	2439.5	2439.5
2.5°	2422.5	2422.5	2422.5	2419.7	2419.7
5°	2397.1	2394.3	2394.3	2391.5	2391.5
7.5°	2377.4	2374.6	2371.8	2368.9	2363.3
10°	2349.2	2349.2	2346.4	2332.3	2329.5
12.5°	2304.1	2301.3	2290.0	2270.2	2264.6
15°	2242.0	2242.0	2219.5	2196.9	2188.5
17.5°	2174.4	2171.5	2143.3	2120.8	2109.5
20°	2101.0	2095.4	2067.2	2030.5	2010.8
22.5°	2019.2	2019.2	1985.4	1937.5	1917.7
25°	1943.1	1931.8	1900.8	1833.1	1782.4
27.5°	1855.7	1838.8	1804.9	1709.0	1649.8
30°	1759.8	1751.3	1703.4	1579.3	1534.2
32.5°	1669.5	1655.4	1604.7	1475.0	1438.3
35°	1576.5	1565.2	1489.1	1376.2	1342.4
37.5°	1483.4	1469.3	1373.4	1283.2	1240.9
40°	1390.3	1373.4	1269.1	1187.3	1142.2
42.5°	1302.9	1280.4	1178.8	1091.4	1040.6
45°	1209.9	1184.5	1082.9	992.7	953.2
47.5°	1116.8	1094.2	1001.2	908.1	863.0
50°	1018.1	998.3	913.7	820.7	772.7
52.5°	936.3	905.3	823.5	730.4	690.9
55°	840.4	815.0	738.9	651.5	617.6
57.5°	753.0	727.6	657.1	575.3	547.1
60°	671.2	634.5	575.3	504.8	482.3
62.5°	581.0	552.8	502.0	442.8	471.0
65°	499.2	471.0	425.8	434.3	361.0
67.5°	408.9	394.8	355.3	315.9	304.6
70°	332.8	315.9	301.8	259.5	248.2
72.5°	265.1	248.2	228.4	205.9	197.4
75°	200.2	186.1	174.9	166.4	183.3
77.5°	138.2	132.5	124.1	115.6	112.8
80°	90.2	87.4	84.6	81.8	79.0
82.5°	53.6	53.6	53.6	53.6	53.6
85°	28.2	31.0	33.8	36.7	39.5
87.5°	16.9	16.9	19.7	22.6	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)