

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: P561293

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561293
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-LD4-1STD-50-UNV-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3213.0 lumens
Efficiency: N/A
Efficacy: 96.5 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

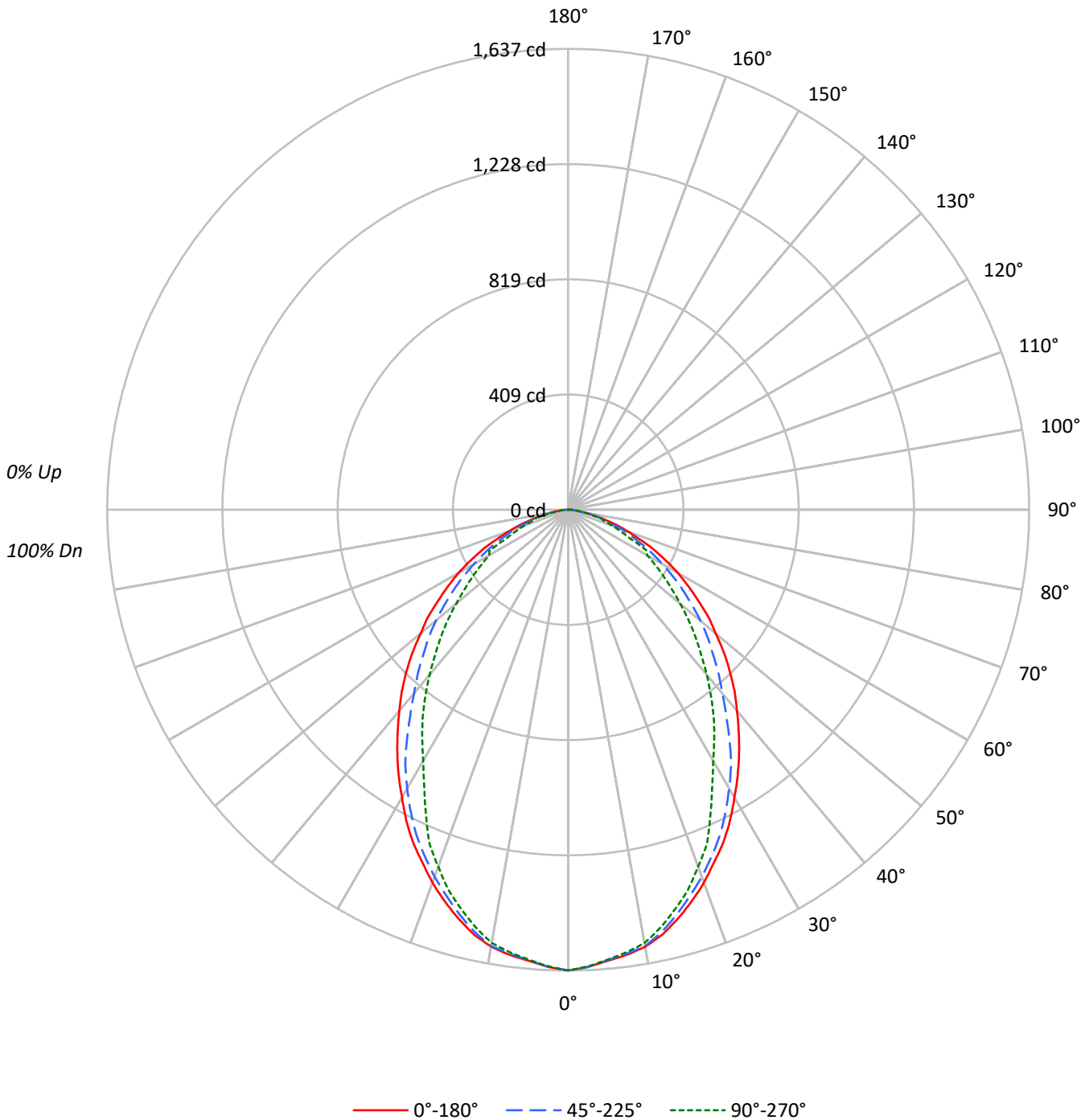
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4404	4404	4404
5°	4344	4339	4334
10°	4307	4301	4271
15°	4191	4148	4091
20°	4037	3972	3863
25°	3871	3787	3551
30°	3669	3551	3198
35°	3475	3282	2959
40°	3277	2991	2692
45°	3089	2765	2434
50°	2859	2566	2170
55°	2645	2326	1944
60°	2423	2077	1741
65°	2132	1819	1542
70°	1757	1593	1310
75°	1396	1220	1279
80°	938	880	821
85°	584	701	818

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3089 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.4	4.7
10°-20°	418.1	13.0
20°-30°	578.9	18.0
30°-40°	617.2	19.2
40°-50°	563.1	17.5
50°-60°	441.1	13.7
60°-70°	287.5	8.9
70°-80°	127.4	4.0
80°-90°	27.3	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°	1149.3	35.8
0°-40°	1766.5	55.0
0°-60°	2770.8	86.2
0°-90°	3213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1608	1606	1606	1604	1604	153
15°	1504	1504	1489	1474	1468	423
25°	1304	1296	1275	1230	1196	599
35°	1058	1050	999	923	901	661
45°	812	795	727	666	640	625
55°	564	547	496	437	414	506
65°	335	316	286	291	242	330
75°	134	125	117	112	123	144
85°	19	21	23	25	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1636.7	1636.7	1636.7	1636.7	1636.7
2.5°	1625.3	1625.3	1625.3	1623.4	1623.4
5°	1608.3	1606.4	1606.4	1604.5	1604.5
7.5°	1595.0	1593.1	1591.2	1589.4	1585.6
10°	1576.1	1576.1	1574.2	1564.8	1562.9
12.5°	1545.8	1543.9	1536.4	1523.1	1519.3
15°	1504.2	1504.2	1489.1	1473.9	1468.3
17.5°	1458.8	1456.9	1438.0	1422.9	1415.3
20°	1409.6	1405.8	1386.9	1362.3	1349.1
22.5°	1354.7	1354.7	1332.0	1299.9	1286.6
25°	1303.7	1296.1	1275.3	1229.9	1195.8
27.5°	1245.0	1233.6	1210.9	1146.6	1106.9
30°	1180.7	1175.0	1142.8	1059.6	1029.3
32.5°	1120.1	1110.7	1076.6	989.6	965.0
35°	1057.7	1050.1	999.0	923.3	900.6
37.5°	995.2	985.8	921.4	860.9	832.5
40°	932.8	921.4	851.4	796.6	766.3
42.5°	874.1	859.0	790.9	732.2	698.2
45°	811.7	794.7	726.6	666.0	639.5
47.5°	749.3	734.1	671.7	609.3	579.0
50°	683.0	669.8	613.0	550.6	518.4
52.5°	628.2	607.4	552.5	490.1	463.6
55°	563.8	546.8	495.7	437.1	414.4
57.5°	505.2	488.2	440.9	386.0	367.1
60°	450.3	425.7	386.0	338.7	323.5
62.5°	389.8	370.8	336.8	297.1	316.0
65°	334.9	316.0	285.7	291.4	242.2
67.5°	274.4	264.9	238.4	211.9	204.3
70°	223.3	211.9	202.5	174.1	166.5
72.5°	177.9	166.5	153.3	138.1	132.4
75°	134.3	124.9	117.3	111.6	123.0
77.5°	92.7	88.9	83.3	77.6	75.7
80°	60.5	58.7	56.8	54.9	53.0
82.5°	35.9	35.9	35.9	35.9	35.9
85°	18.9	20.8	22.7	24.6	26.5
87.5°	11.4	11.4	13.2	15.1	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)