

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: P561698

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561698
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-LD4-2LO-50-UNV-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4353.0 lumens
Efficiency: N/A
Efficacy: 93.0 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

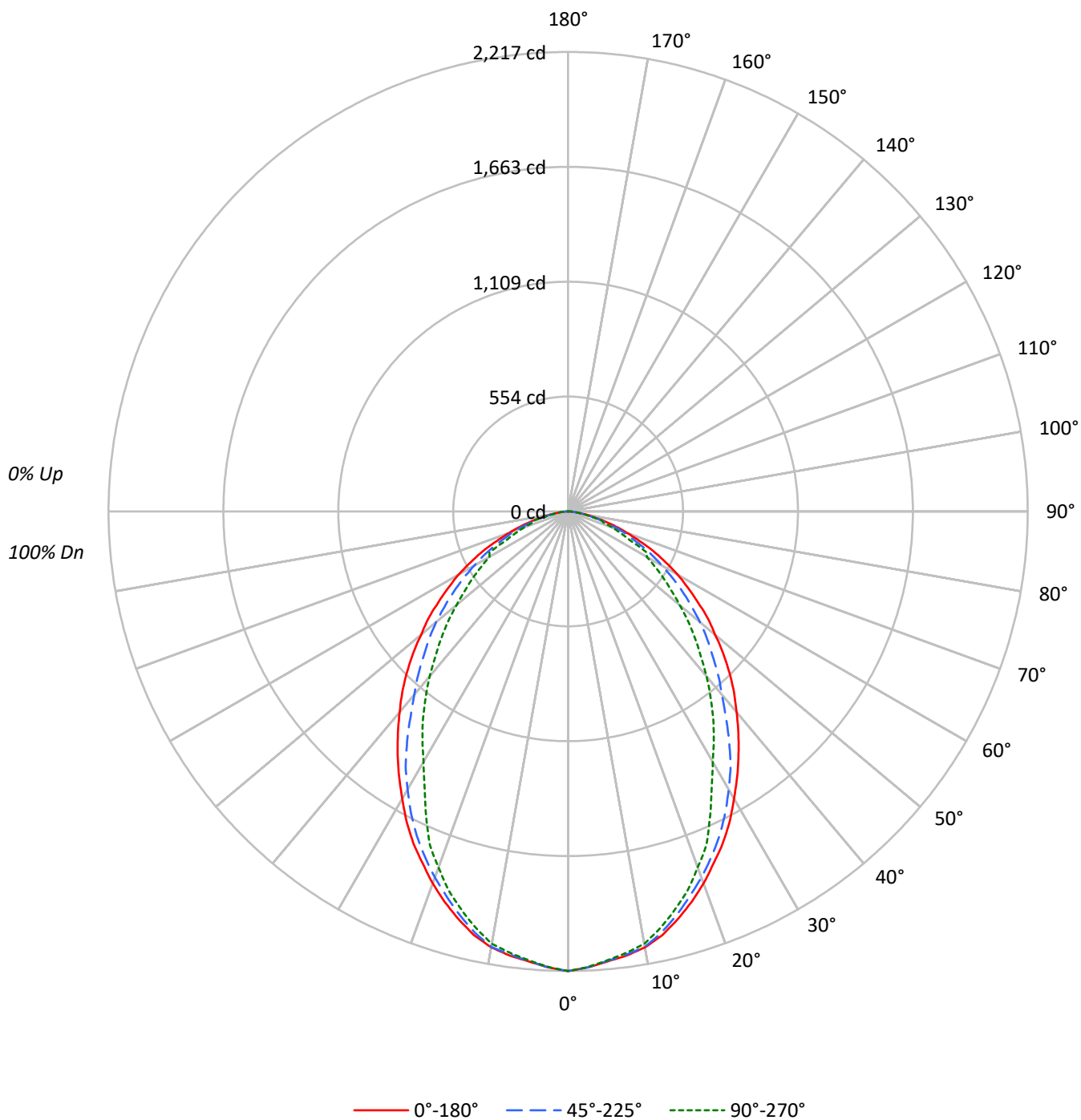
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					0
RW	70	50	30	10	70	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°	5967	5967	5967
5°	5886	5879	5872
10°	5835	5828	5786
15°	5677	5620	5542
20°	5469	5381	5234
25°	5244	5130	4810
30°	4970	4811	4333
35°	4708	4446	4008
40°	4440	4052	3647
45°	4185	3746	3297
50°	3874	3477	2941
55°	3584	3151	2634
60°	3284	2814	2359
65°	2889	2465	2089
70°	2380	2158	1775
75°	1892	1652	1732
80°	1271	1192	1113
85°	790	951	1108

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4185 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.4	4.7
10°-20°	566.5	13.0
20°-30°	784.2	18.0
30°-40°	836.2	19.2
40°-50°	762.9	17.5
50°-60°	597.7	13.7
60°-70°	389.5	8.9
70°-80°	172.6	4.0
80°-90°	37.1	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°	1557.1	35.8
0°-40°	2393.3	55.0
0°-60°	3753.8	86.2
0°-90°	4353.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4353.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2217	2217	2217	2217	2217	
5°	2179	2176	2176	2174	2174	207
15°	2038	2038	2017	1997	1989	573
25°	1766	1756	1728	1666	1620	811
35°	1433	1423	1354	1251	1220	896
45°	1100	1077	984	902	866	847
55°	764	741	672	592	561	685
65°	454	428	387	395	328	447
75°	182	169	159	151	167	195
85°	26	28	31	33	36	36
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2217.4	2217.4	2217.4	2217.4	2217.4
2.5°	2202.0	2202.0	2202.0	2199.4	2199.4
5°	2178.9	2176.3	2176.3	2173.8	2173.8
7.5°	2161.0	2158.4	2155.8	2153.3	2148.1
10°	2135.3	2135.3	2132.8	2120.0	2117.4
12.5°	2094.3	2091.8	2081.5	2063.6	2058.4
15°	2037.9	2037.9	2017.4	1996.9	1989.2
17.5°	1976.4	1973.8	1948.2	1927.7	1917.4
20°	1909.7	1904.6	1879.0	1845.7	1827.7
22.5°	1835.4	1835.4	1804.6	1761.1	1743.1
25°	1766.2	1755.9	1727.7	1666.2	1620.1
27.5°	1686.7	1671.4	1640.6	1553.4	1499.6
30°	1599.6	1591.9	1548.3	1435.5	1394.5
32.5°	1517.5	1504.7	1458.6	1340.7	1307.3
35°	1433.0	1422.7	1353.5	1250.9	1220.2
37.5°	1348.4	1335.5	1248.4	1166.4	1127.9
40°	1263.8	1248.4	1153.5	1079.2	1038.2
42.5°	1184.3	1163.8	1071.5	992.0	945.9
45°	1099.7	1076.6	984.4	902.3	866.4
47.5°	1015.1	994.6	910.0	825.4	784.4
50°	925.4	907.5	830.5	746.0	702.4
52.5°	851.1	822.9	748.5	663.9	628.0
55°	763.9	740.8	671.6	592.2	561.4
57.5°	684.4	661.4	597.3	522.9	497.3
60°	610.1	576.8	522.9	458.9	438.3
62.5°	528.1	502.4	456.3	402.5	428.1
65°	453.7	428.1	387.1	394.8	328.1
67.5°	371.7	358.9	323.0	287.1	276.8
70°	302.5	287.1	274.3	235.8	225.6
72.5°	241.0	225.6	207.6	187.1	179.4
75°	182.0	169.2	158.9	151.2	166.6
77.5°	125.6	120.5	112.8	105.1	102.5
80°	82.0	79.5	76.9	74.3	71.8
82.5°	48.7	48.7	48.7	48.7	48.7
85°	25.6	28.2	30.8	33.3	35.9
87.5°	15.4	15.4	17.9	20.5	23.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)