

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: P561693

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561693
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-82-96-EDD
Description: 1X4 FSR TROFFER WITH .187 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: 4697.0 lumens
Efficiency: N/A
Efficacy: 100.4 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

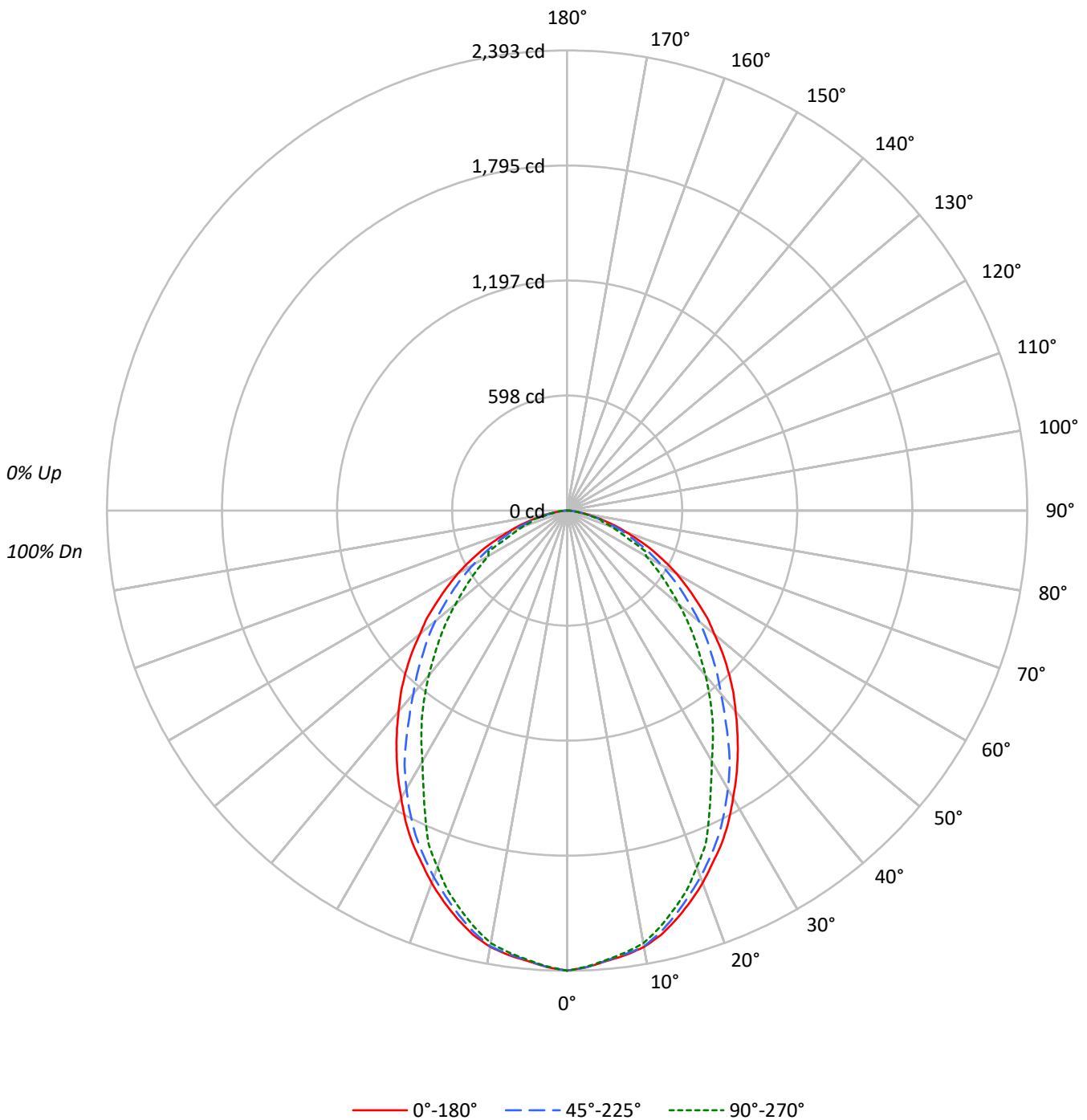
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	6438	6438	6438
5°	6351	6343	6336
10°	6296	6288	6243
15°	6126	6064	5980
20°	5901	5806	5648
25°	5659	5535	5190
30°	5363	5191	4676
35°	5079	4798	4325
40°	4790	4372	3935
45°	4516	4042	3558
50°	4180	3752	3173
55°	3867	3400	2842
60°	3543	3037	2546
65°	3117	2660	2254
70°	2568	2329	1915
75°	2042	1783	1869
80°	1371	1286	1199
85°	855	1025	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4516 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.7	4.7
10°-20°	611.2	13.0
20°-30°	846.2	18.0
30°-40°	902.3	19.2
40°-50°	823.2	17.5
50°-60°	644.9	13.7
60°-70°	420.3	8.9
70°-80°	186.2	4.0
80°-90°	40.0	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°	1680.2	35.8
0°-40°	2582.5	55.0
0°-60°	4050.5	86.2
0°-90°	4697.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4697.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2393	2393	2393	2393	2393	
5°	2351	2348	2348	2346	2346	223
15°	2199	2199	2177	2155	2146	618
25°	1906	1895	1864	1798	1748	875
35°	1546	1535	1460	1350	1317	967
45°	1187	1162	1062	974	935	914
55°	824	799	725	639	606	739
65°	490	462	418	426	354	482
75°	196	183	172	163	180	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2392.6	2392.6	2392.6	2392.6	2392.6
2.5°	2376.0	2376.0	2376.0	2373.2	2373.2
5°	2351.1	2348.3	2348.3	2345.6	2345.6
7.5°	2331.7	2329.0	2326.2	2323.4	2317.9
10°	2304.1	2304.1	2301.3	2287.5	2284.7
12.5°	2259.8	2257.1	2246.0	2226.6	2221.1
15°	2199.0	2199.0	2176.8	2154.7	2146.4
17.5°	2132.6	2129.8	2102.2	2080.0	2069.0
20°	2060.7	2055.1	2027.5	1991.5	1972.2
22.5°	1980.5	1980.5	1947.3	1900.2	1880.9
25°	1905.8	1894.7	1864.3	1797.9	1748.1
27.5°	1820.0	1803.4	1770.2	1676.2	1618.1
30°	1726.0	1717.7	1670.7	1549.0	1504.7
32.5°	1637.5	1623.6	1573.9	1446.6	1410.7
35°	1546.2	1535.1	1460.4	1349.8	1316.6
37.5°	1454.9	1441.1	1347.0	1258.5	1217.0
40°	1363.6	1347.0	1244.7	1164.5	1120.2
42.5°	1277.9	1255.8	1156.2	1070.4	1020.7
45°	1186.6	1161.7	1062.1	973.6	934.9
47.5°	1095.3	1073.2	981.9	890.7	846.4
50°	998.5	979.2	896.2	804.9	757.9
52.5°	918.3	887.9	807.7	716.4	677.7
55°	824.3	799.4	724.7	638.9	605.8
57.5°	738.5	713.6	644.5	564.3	536.6
60°	658.3	622.3	564.3	495.1	473.0
62.5°	569.8	542.1	492.3	434.3	461.9
65°	489.6	461.9	417.7	426.0	354.0
67.5°	401.1	387.2	348.5	309.8	298.7
70°	326.4	309.8	296.0	254.5	243.4
72.5°	260.0	243.4	224.0	201.9	193.6
75°	196.4	182.6	171.5	163.2	179.8
77.5°	135.5	130.0	121.7	113.4	110.6
80°	88.5	85.7	83.0	80.2	77.4
82.5°	52.6	52.6	52.6	52.6	52.6
85°	27.7	30.4	33.2	36.0	38.7
87.5°	16.6	16.6	19.4	22.1	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)