

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: P561691

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561691
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-82-94-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 4749.0 lumens
Efficiency: N/A
Efficacy: 101.5 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

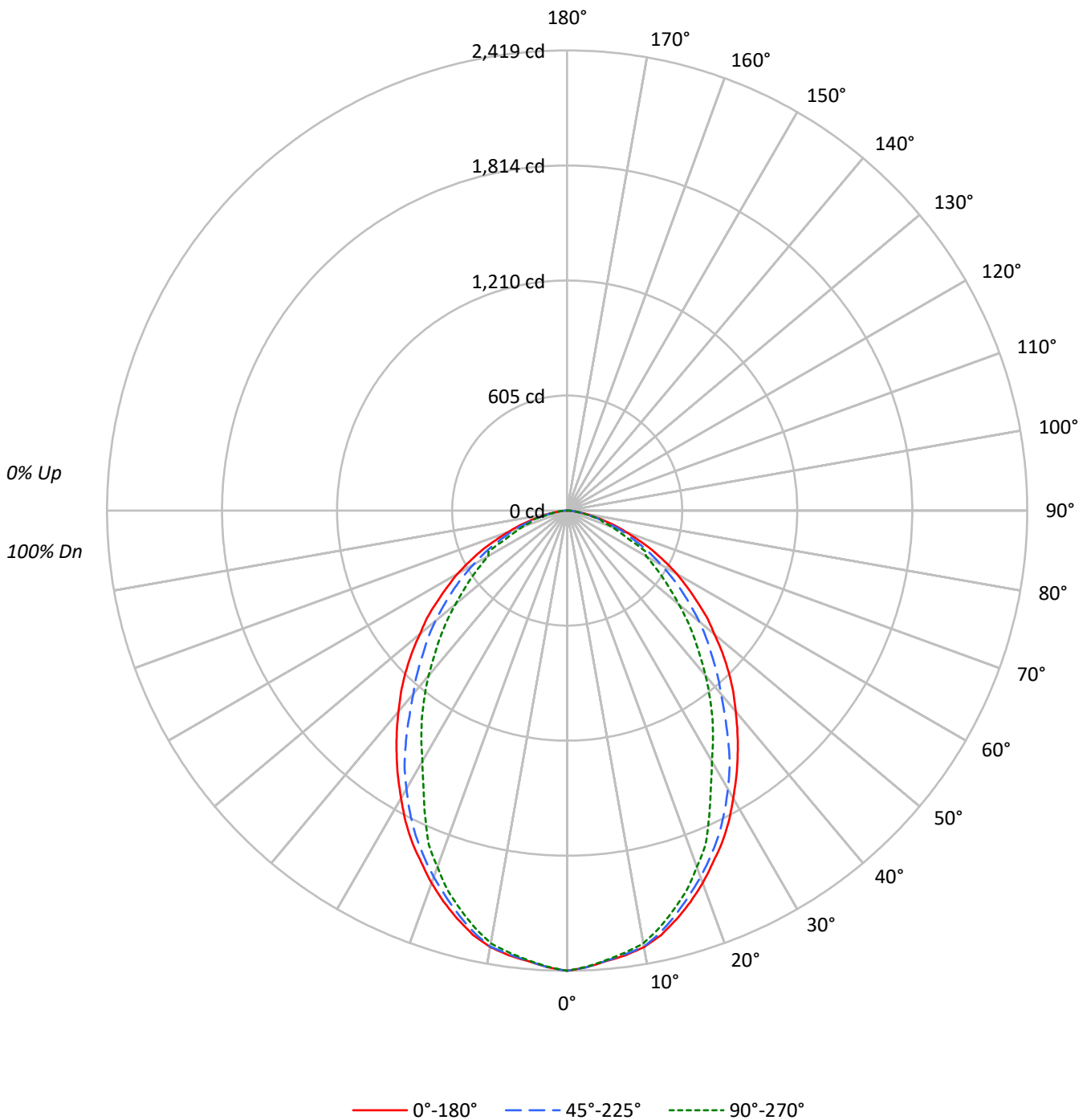
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6510	6510	6510
5°	6421	6414	6406
10°	6366	6358	6312
15°	6194	6132	6046
20°	5966	5870	5710
25°	5721	5597	5248
30°	5423	5249	4727
35°	5136	4851	4373
40°	4843	4421	3979
45°	4566	4087	3597
50°	4227	3793	3208
55°	3910	3438	2874
60°	3582	3070	2574
65°	3152	2689	2280
70°	2596	2354	1936
75°	2065	1803	1890
80°	1387	1300	1213
85°	865	1037	1210

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4566 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.2	4.7
10°-20°	618.0	13.0
20°-30°	855.6	18.0
30°-40°	912.3	19.2
40°-50°	832.3	17.5
50°-60°	652.0	13.7
60°-70°	424.9	8.9
70°-80°	188.3	4.0
80°-90°	40.4	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°	1698.8	35.8
0°-40°	2611.1	55.0
0°-60°	4095.4	86.2
0°-90°	4749.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4749.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2419	2419	2419	2419	2419	
5°	2377	2374	2374	2372	2372	226
15°	2223	2223	2201	2179	2170	625
25°	1927	1916	1885	1818	1768	885
35°	1563	1552	1477	1365	1331	977
45°	1200	1175	1074	984	945	924
55°	833	808	733	646	612	748
65°	495	467	422	431	358	488
75°	199	185	173	165	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2419.1	2419.1	2419.1	2419.1	2419.1
2.5°	2402.3	2402.3	2402.3	2399.5	2399.5
5°	2377.1	2374.3	2374.3	2371.5	2371.5
7.5°	2357.6	2354.8	2352.0	2349.2	2343.6
10°	2329.6	2329.6	2326.8	2312.8	2310.0
12.5°	2284.8	2282.0	2270.9	2251.3	2245.7
15°	2223.3	2223.3	2200.9	2178.6	2170.2
17.5°	2156.2	2153.4	2125.4	2103.1	2091.9
20°	2083.5	2077.9	2049.9	2013.6	1994.0
22.5°	2002.4	2002.4	1968.8	1921.3	1901.7
25°	1926.9	1915.7	1884.9	1817.8	1767.5
27.5°	1840.2	1823.4	1789.8	1694.8	1636.0
30°	1745.1	1736.7	1689.2	1566.1	1521.4
32.5°	1655.6	1641.6	1591.3	1462.6	1426.3
35°	1563.3	1552.1	1476.6	1364.8	1331.2
37.5°	1471.0	1457.0	1362.0	1272.5	1230.5
40°	1378.7	1362.0	1258.5	1177.4	1132.6
42.5°	1292.0	1269.7	1169.0	1082.3	1032.0
45°	1199.8	1174.6	1073.9	984.4	945.3
47.5°	1107.5	1085.1	992.8	900.5	855.8
50°	1009.6	990.0	906.1	813.8	766.3
52.5°	928.5	897.7	816.6	724.3	685.2
55°	833.4	808.2	732.7	646.0	612.5
57.5°	746.7	721.5	651.6	570.5	542.5
60°	665.6	629.2	570.5	500.6	478.2
62.5°	576.1	548.1	497.8	439.1	467.0
65°	495.0	467.0	422.3	430.7	358.0
67.5°	405.5	391.5	352.4	313.2	302.0
70°	330.0	313.2	299.2	257.3	246.1
72.5°	262.9	246.1	226.5	204.2	195.8
75°	198.6	184.6	173.4	165.0	181.8
77.5°	137.0	131.4	123.1	114.7	111.9
80°	89.5	86.7	83.9	81.1	78.3
82.5°	53.1	53.1	53.1	53.1	53.1
85°	28.0	30.8	33.6	36.4	39.2
87.5°	16.8	16.8	19.6	22.4	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)