

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: P560911

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560911
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-LD4-1HI-50-UNV-81-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 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: 3799.0 lumens
Efficiency: N/A
Efficacy: 87.9 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

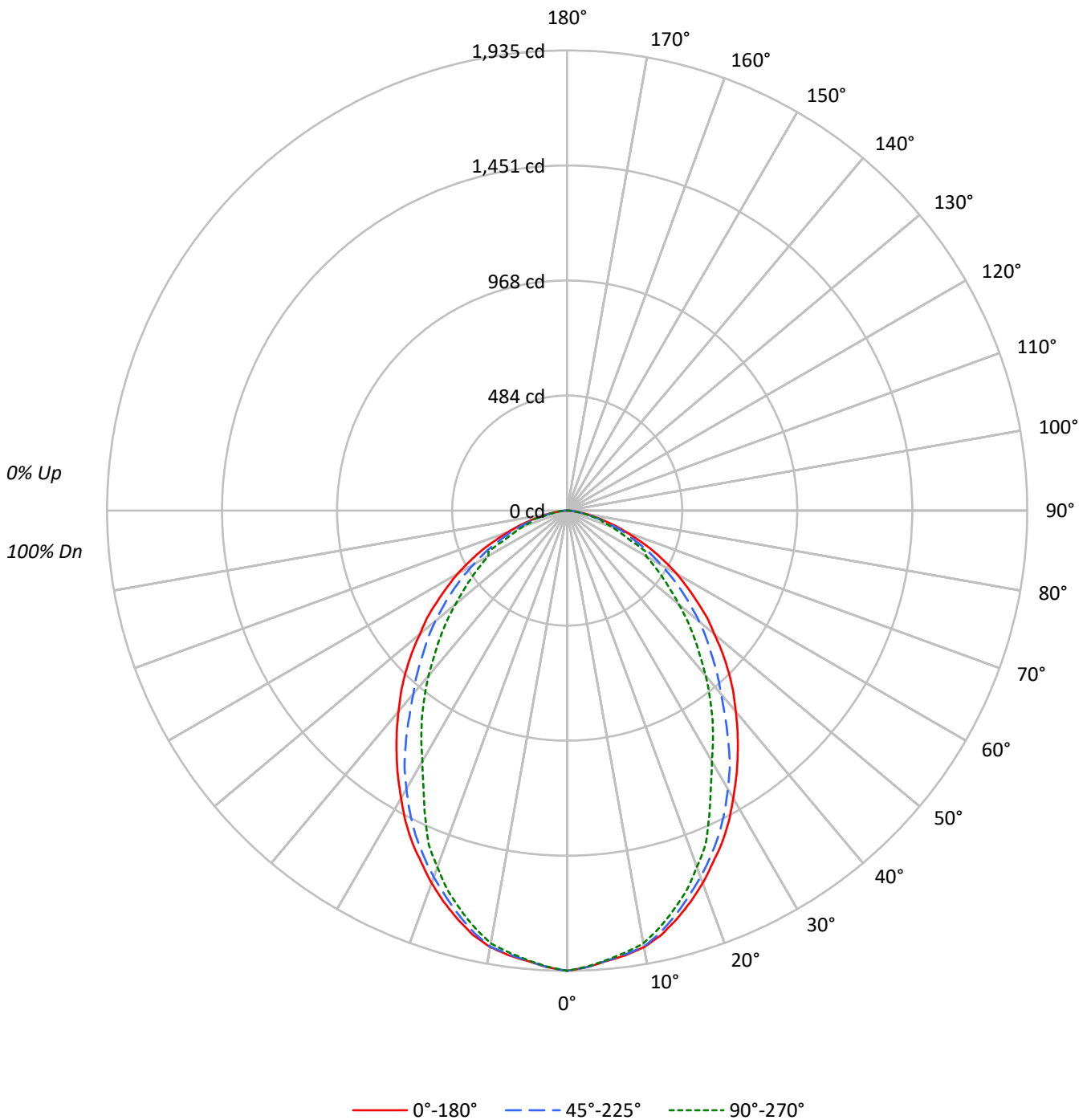
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5208	5208	5208
5°	5137	5131	5125
10°	5092	5086	5049
15°	4955	4905	4837
20°	4773	4696	4568
25°	4577	4477	4198
30°	4338	4199	3782
35°	4108	3880	3498
40°	3874	3536	3183
45°	3652	3269	2878
50°	3381	3034	2566
55°	3128	2750	2298
60°	2865	2456	2059
65°	2521	2151	1824
70°	2077	1884	1549
75°	1651	1442	1512
80°	1110	1040	970
85°	692	827	966

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3652 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.1	4.7
10°-20°	494.4	13.0
20°-30°	684.4	18.0
30°-40°	729.8	19.2
40°-50°	665.8	17.5
50°-60°	521.6	13.7
60°-70°	340.0	8.9
70°-80°	150.6	4.0
80°-90°	32.3	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°	1358.9	35.8
0°-40°	2088.7	55.0
0°-60°	3276.1	86.2
0°-90°	3799.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3799.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1935	1935	1935	1935	1935	
5°	1902	1899	1899	1897	1897	181
15°	1779	1779	1761	1743	1736	500
25°	1541	1532	1508	1454	1414	708
35°	1251	1242	1181	1092	1065	782
45°	960	940	859	788	756	739
55°	667	646	586	517	490	598
65°	396	374	338	344	286	390
75°	159	148	139	132	145	170
85°	22	25	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1935.2	1935.2	1935.2	1935.2	1935.2
2.5°	1921.7	1921.7	1921.7	1919.5	1919.5
5°	1901.6	1899.4	1899.4	1897.1	1897.1
7.5°	1885.9	1883.7	1881.5	1879.2	1874.8
10°	1863.6	1863.6	1861.3	1850.1	1847.9
12.5°	1827.8	1825.5	1816.6	1800.9	1796.5
15°	1778.6	1778.6	1760.7	1742.8	1736.1
17.5°	1724.9	1722.6	1700.3	1682.4	1673.4
20°	1666.7	1662.2	1639.9	1610.8	1595.1
22.5°	1601.8	1601.8	1575.0	1536.9	1521.3
25°	1541.4	1532.5	1507.9	1454.2	1413.9
27.5°	1472.1	1458.6	1431.8	1355.7	1308.7
30°	1396.0	1389.3	1351.3	1252.8	1217.0
32.5°	1324.4	1313.2	1273.0	1170.0	1141.0
35°	1250.6	1241.6	1181.2	1091.7	1064.9
37.5°	1176.8	1165.6	1089.5	1017.9	984.4
40°	1102.9	1089.5	1006.7	941.9	906.1
42.5°	1033.6	1015.7	935.1	865.8	825.5
45°	959.7	939.6	859.1	787.5	756.2
47.5°	885.9	868.0	794.2	720.4	684.6
50°	807.6	792.0	724.8	651.0	613.0
52.5°	742.7	718.1	653.3	579.4	548.1
55°	666.7	646.5	586.1	516.8	489.9
57.5°	597.3	577.2	521.3	456.4	434.0
60°	532.4	503.4	456.4	400.5	382.6
62.5°	460.9	438.5	398.2	351.2	373.6
65°	396.0	373.6	337.8	344.5	286.4
67.5°	324.4	313.2	281.9	250.6	241.6
70°	264.0	250.6	239.4	205.8	196.9
72.5°	210.3	196.9	181.2	163.3	156.6
75°	158.8	147.7	138.7	132.0	145.4
77.5°	109.6	105.1	98.4	91.7	89.5
80°	71.6	69.4	67.1	64.9	62.6
82.5°	42.5	42.5	42.5	42.5	42.5
85°	22.4	24.6	26.8	29.1	31.3
87.5°	13.4	13.4	15.7	17.9	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)