

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: P560935

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560935
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-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3931.0 lumens
Efficiency: N/A
Efficacy: 91.0 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

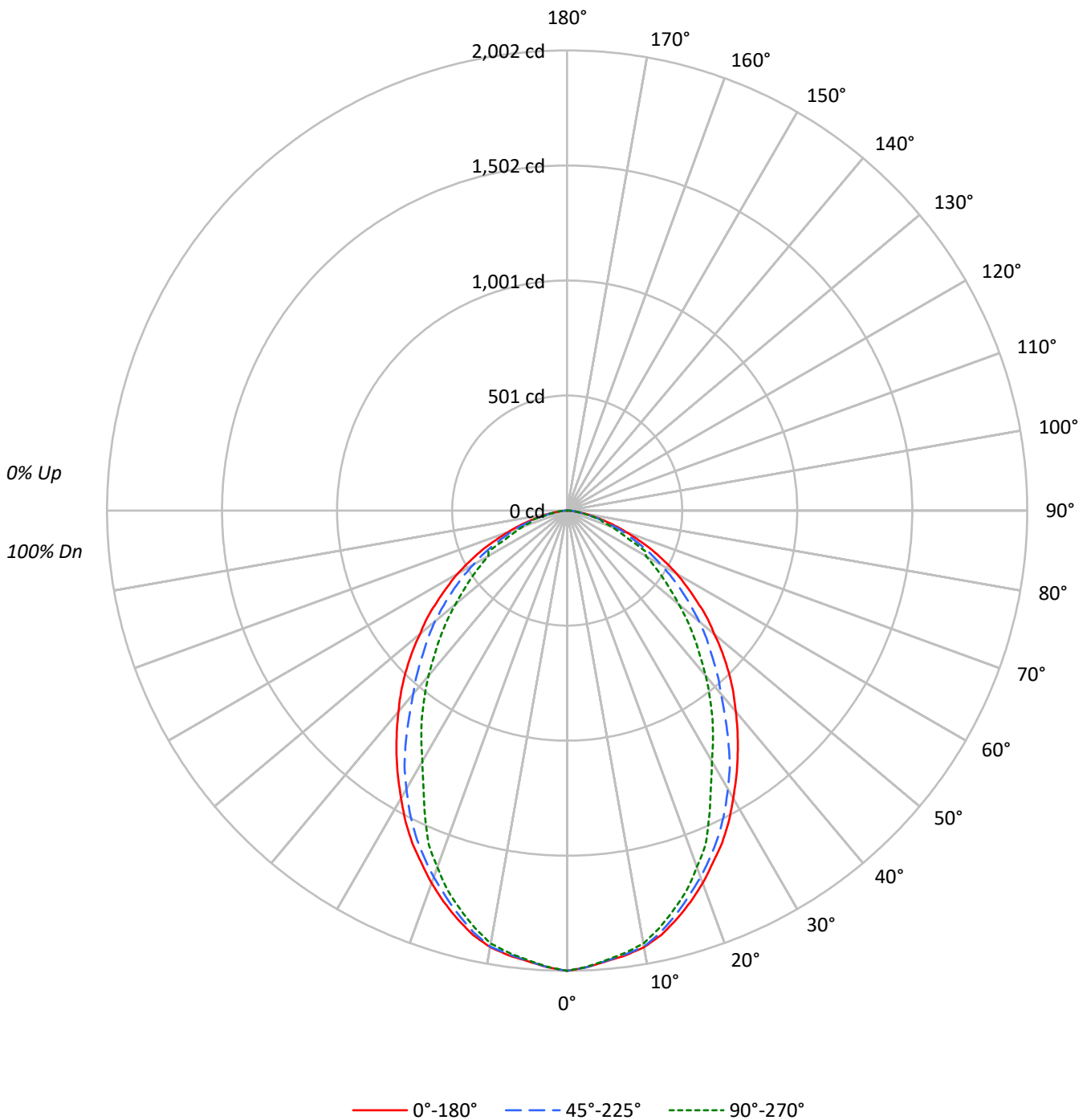
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5388	5388	5388
5°	5315	5309	5303
10°	5269	5263	5225
15°	5127	5075	5005
20°	4939	4859	4727
25°	4736	4633	4344
30°	4488	4345	3913
35°	4251	4015	3620
40°	4009	3659	3293
45°	3779	3383	2978
50°	3499	3140	2655
55°	3236	2845	2379
60°	2965	2541	2130
65°	2609	2226	1887
70°	2150	1949	1603
75°	1709	1492	1565
80°	1148	1075	1004
85°	713	858	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3779 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.4	4.7
10°-20°	511.5	13.0
20°-30°	708.2	18.0
30°-40°	755.2	19.2
40°-50°	688.9	17.5
50°-60°	539.7	13.7
60°-70°	351.8	8.9
70°-80°	155.8	4.0
80°-90°	33.5	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°	1406.1	35.8
0°-40°	2161.3	55.0
0°-60°	3389.9	86.2
0°-90°	3931.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3931.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2002	2002	2002	2002	2002	
5°	1968	1965	1965	1963	1963	187
15°	1840	1840	1822	1803	1796	517
25°	1595	1586	1560	1505	1463	732
35°	1294	1285	1222	1130	1102	809
45°	993	972	889	815	782	765
55°	690	669	606	535	507	619
65°	410	387	350	356	296	404
75°	164	153	144	137	150	176
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2002.4	2002.4	2002.4	2002.4	2002.4
2.5°	1988.5	1988.5	1988.5	1986.2	1986.2
5°	1967.7	1965.4	1965.4	1963.0	1963.0
7.5°	1951.5	1949.2	1946.8	1944.5	1939.9
10°	1928.3	1928.3	1926.0	1914.4	1912.1
12.5°	1891.3	1889.0	1879.7	1863.5	1858.9
15°	1840.4	1840.4	1821.8	1803.3	1796.4
17.5°	1784.8	1782.5	1759.3	1740.8	1731.6
20°	1724.6	1720.0	1696.8	1666.7	1650.5
22.5°	1657.5	1657.5	1629.7	1590.3	1574.1
25°	1595.0	1585.7	1560.3	1504.7	1463.0
27.5°	1523.2	1509.3	1481.5	1402.8	1354.2
30°	1444.5	1437.6	1398.2	1296.4	1259.3
32.5°	1370.4	1358.9	1317.2	1210.7	1180.6
35°	1294.0	1284.8	1222.3	1129.7	1101.9
37.5°	1217.6	1206.1	1127.4	1053.3	1018.6
40°	1141.3	1127.4	1041.7	974.6	937.5
42.5°	1069.5	1051.0	967.6	895.9	854.2
45°	993.1	972.3	888.9	814.8	782.4
47.5°	916.7	898.2	821.8	745.4	708.4
50°	835.7	819.5	750.0	673.6	634.3
52.5°	768.6	743.1	676.0	599.6	567.2
55°	689.8	669.0	606.5	534.7	507.0
57.5°	618.1	597.2	539.4	472.2	449.1
60°	550.9	520.9	472.2	414.4	395.8
62.5°	476.9	453.7	412.1	363.4	386.6
65°	409.7	386.6	349.6	356.5	296.3
67.5°	335.7	324.1	291.7	259.3	250.0
70°	273.2	259.3	247.7	213.0	203.7
72.5°	217.6	203.7	187.5	169.0	162.0
75°	164.4	152.8	143.5	136.6	150.5
77.5°	113.4	108.8	101.9	94.9	92.6
80°	74.1	71.8	69.4	67.1	64.8
82.5°	44.0	44.0	44.0	44.0	44.0
85°	23.1	25.5	27.8	30.1	32.4
87.5°	13.9	13.9	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)