

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: P561568

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561568
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-35-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4159.0 lumens
Efficiency: N/A
Efficacy: 88.9 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

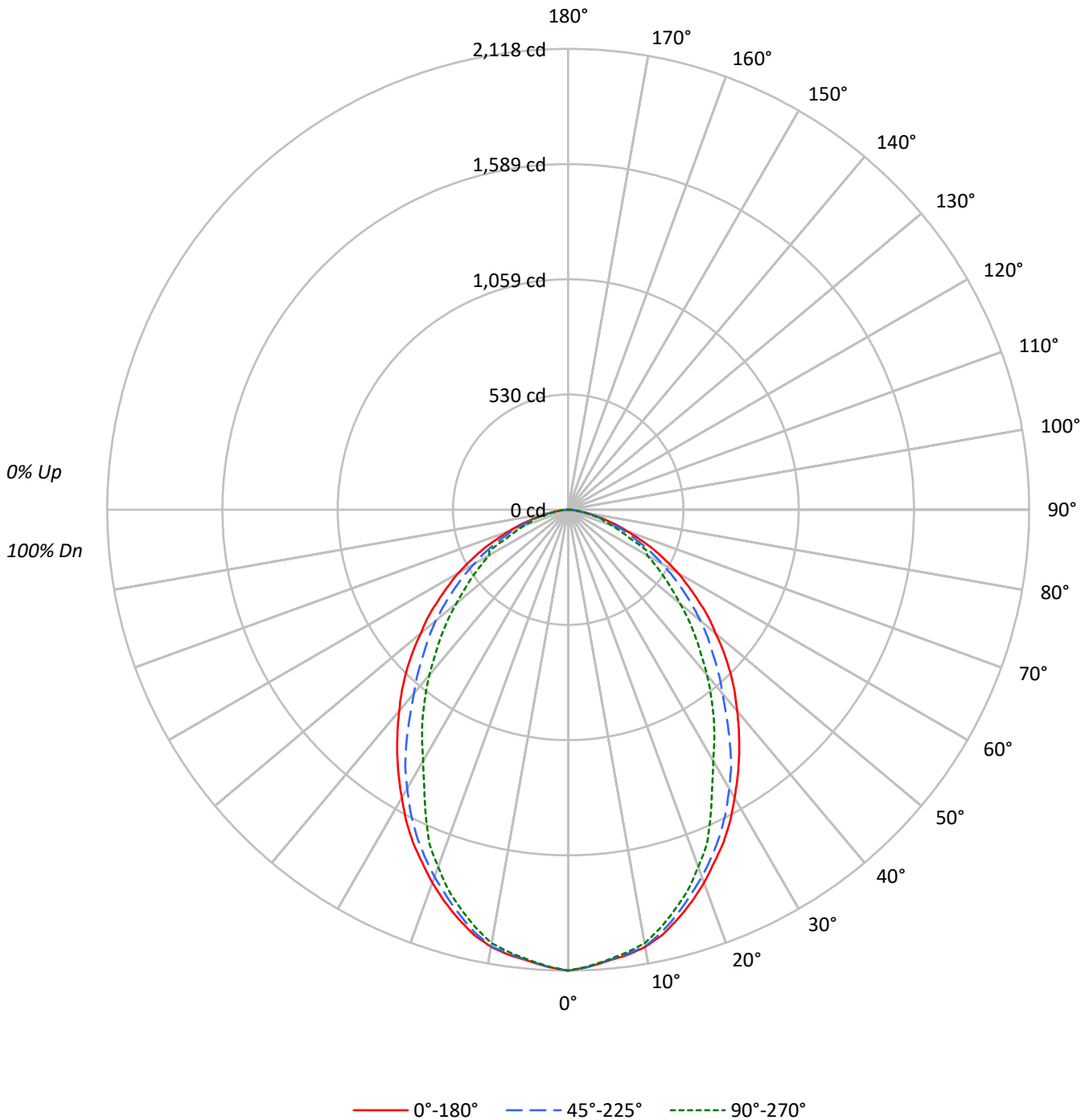
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5701	5701	5701
5°	5623	5617	5610
10°	5575	5568	5528
15°	5424	5370	5295
20°	5225	5141	5001
25°	5010	4901	4596
30°	4749	4597	4140
35°	4498	4248	3830
40°	4241	3871	3484
45°	3999	3579	3150
50°	3702	3322	2810
55°	3424	3011	2517
60°	3137	2689	2254
65°	2760	2355	1996
70°	2274	2062	1696
75°	1808	1578	1655
80°	1215	1139	1063
85°	756	908	1059

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3999 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.2	4.7
10°-20°	541.2	13.0
20°-30°	749.3	18.0
30°-40°	798.9	19.2
40°-50°	728.9	17.5
50°-60°	571.0	13.7
60°-70°	372.2	8.9
70°-80°	164.9	4.0
80°-90°	35.4	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°	1487.7	35.8
0°-40°	2286.7	55.0
0°-60°	3586.6	86.2
0°-90°	4159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2118	2118	2118	2118	2118	
5°	2082	2079	2079	2077	2077	198
15°	1947	1947	1928	1908	1901	547
25°	1688	1678	1651	1592	1548	775
35°	1369	1359	1293	1195	1166	856
45°	1051	1029	940	862	828	809
55°	730	708	642	566	536	655
65°	434	409	370	377	314	427
75°	174	162	152	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2118.5	2118.5	2118.5	2118.5	2118.5
2.5°	2103.8	2103.8	2103.8	2101.4	2101.4
5°	2081.8	2079.4	2079.4	2076.9	2076.9
7.5°	2064.7	2062.2	2059.8	2057.3	2052.4
10°	2040.2	2040.2	2037.7	2025.5	2023.0
12.5°	2001.0	1998.5	1988.7	1971.6	1966.7
15°	1947.1	1947.1	1927.5	1907.9	1900.6
17.5°	1888.3	1885.9	1861.4	1841.8	1832.0
20°	1824.6	1819.7	1795.2	1763.4	1746.3
22.5°	1753.6	1753.6	1724.2	1682.6	1665.4
25°	1687.5	1677.7	1650.7	1592.0	1547.9
27.5°	1611.6	1596.9	1567.5	1484.2	1432.8
30°	1528.3	1520.9	1479.3	1371.5	1332.4
32.5°	1449.9	1437.7	1393.6	1280.9	1249.1
35°	1369.1	1359.3	1293.2	1195.2	1165.8
37.5°	1288.3	1276.0	1192.7	1114.4	1077.6
40°	1207.4	1192.7	1102.1	1031.1	991.9
42.5°	1131.5	1111.9	1023.8	947.8	903.7
45°	1050.7	1028.7	940.5	862.1	827.8
47.5°	969.9	950.3	869.5	788.6	749.4
50°	884.2	867.0	793.5	712.7	671.1
52.5°	813.1	786.2	715.2	634.3	600.0
55°	729.9	707.8	641.7	565.8	536.4
57.5°	653.9	631.9	570.7	499.6	475.1
60°	582.9	551.1	499.6	438.4	418.8
62.5°	504.5	480.0	436.0	384.5	409.0
65°	433.5	409.0	369.8	377.2	313.5
67.5°	355.1	342.9	308.6	274.3	264.5
70°	289.0	274.3	262.1	225.3	215.5
72.5°	230.2	215.5	198.4	178.8	171.4
75°	173.9	161.6	151.8	144.5	159.2
77.5°	120.0	115.1	107.8	100.4	98.0
80°	78.4	75.9	73.5	71.0	68.6
82.5°	46.5	46.5	46.5	46.5	46.5
85°	24.5	26.9	29.4	31.8	34.3
87.5°	14.7	14.7	17.1	19.6	22.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)