

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: P561641

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561641
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-40-UNV-93-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4239.0 lumens
Efficiency: N/A
Efficacy: 90.6 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

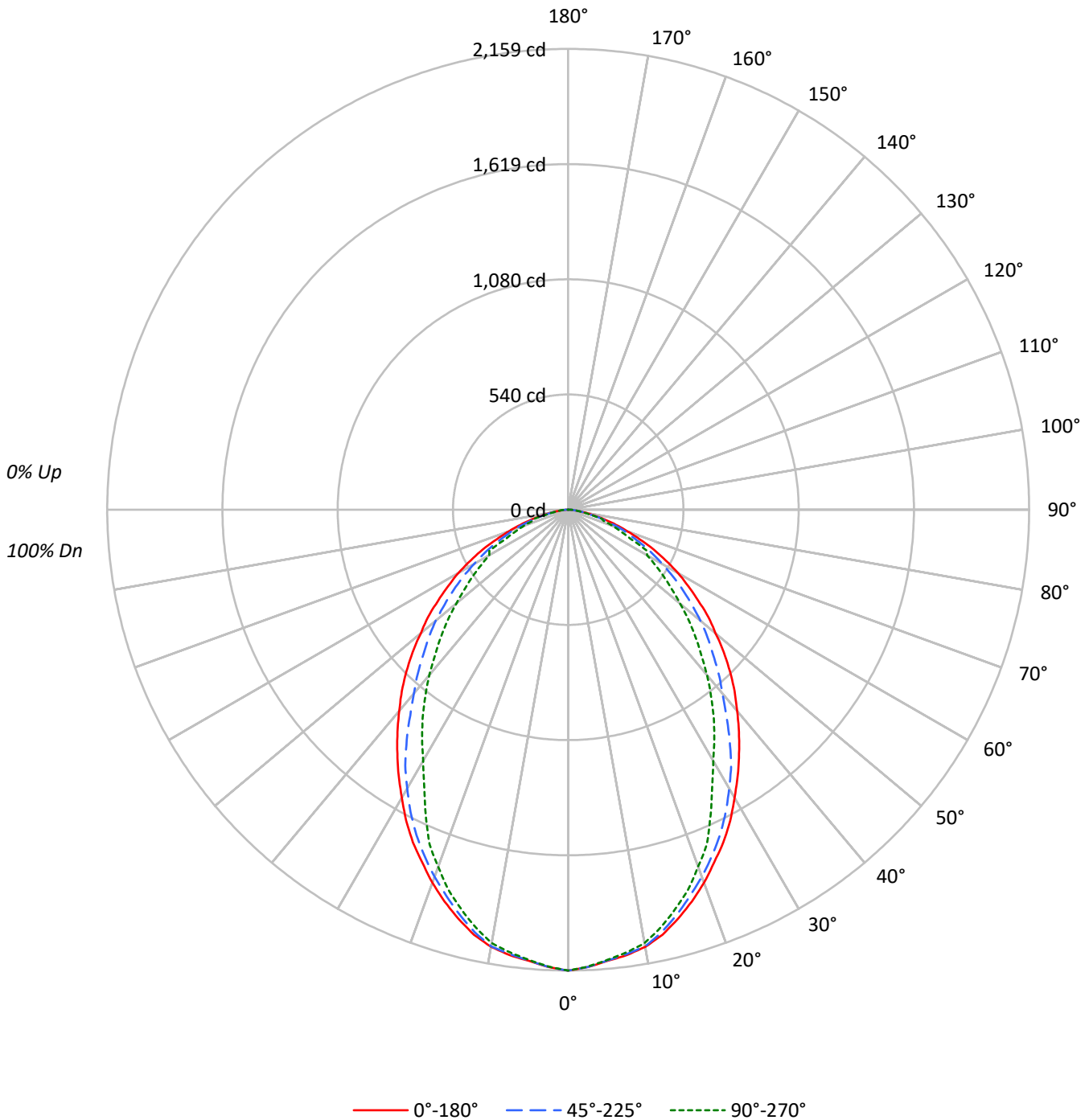
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5811	5811	5811
5°	5732	5725	5718
10°	5682	5675	5634
15°	5529	5473	5397
20°	5326	5240	5097
25°	5107	4996	4684
30°	4840	4685	4220
35°	4584	4330	3903
40°	4323	3946	3551
45°	4075	3648	3211
50°	3773	3386	2864
55°	3490	3068	2565
60°	3197	2740	2298
65°	2813	2400	2034
70°	2318	2102	1729
75°	1842	1609	1687
80°	1238	1161	1083
85°	772	926	1078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4075 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.0	4.7
10°-20°	551.6	13.0
20°-30°	763.7	18.0
30°-40°	814.3	19.2
40°-50°	742.9	17.5
50°-60°	582.0	13.7
60°-70°	379.3	8.9
70°-80°	168.1	4.0
80°-90°	36.1	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°	1516.3	35.8
0°-40°	2330.6	55.0
0°-60°	3655.5	86.2
0°-90°	4239.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4239.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2159	2159	2159	2159	2159	
5°	2122	2119	2119	2117	2117	201
15°	1984	1984	1965	1945	1937	558
25°	1720	1710	1682	1623	1578	790
35°	1395	1385	1318	1218	1188	872
45°	1071	1048	959	879	844	825
55°	744	721	654	577	547	667
65°	442	417	377	384	320	435
75°	177	165	155	147	162	190
85°	25	28	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2159.3	2159.3	2159.3	2159.3	2159.3
2.5°	2144.3	2144.3	2144.3	2141.8	2141.8
5°	2121.8	2119.3	2119.3	2116.9	2116.9
7.5°	2104.4	2101.9	2099.4	2096.9	2091.9
10°	2079.4	2079.4	2076.9	2064.4	2061.9
12.5°	2039.5	2037.0	2027.0	2009.5	2004.5
15°	1984.5	1984.5	1964.6	1944.6	1937.1
17.5°	1924.6	1922.1	1897.2	1877.2	1867.2
20°	1859.7	1854.7	1829.8	1797.3	1779.9
22.5°	1787.3	1787.3	1757.4	1715.0	1697.5
25°	1719.9	1710.0	1682.5	1622.6	1577.7
27.5°	1642.6	1627.6	1597.6	1512.8	1460.3
30°	1557.7	1550.2	1507.8	1397.9	1358.0
32.5°	1477.8	1465.3	1420.4	1305.6	1273.1
35°	1395.4	1385.4	1318.0	1218.2	1188.2
37.5°	1313.0	1300.6	1215.7	1135.8	1098.4
40°	1230.7	1215.7	1123.3	1050.9	1011.0
42.5°	1153.3	1133.3	1043.4	966.1	921.1
45°	1070.9	1048.4	958.6	878.7	843.7
47.5°	988.5	968.6	886.2	803.8	763.9
50°	901.2	883.7	808.8	726.4	684.0
52.5°	828.8	801.3	728.9	646.5	611.6
55°	743.9	721.4	654.0	576.6	546.7
57.5°	666.5	644.0	581.6	509.2	484.3
60°	594.1	561.7	509.2	446.8	426.9
62.5°	514.2	489.3	444.3	391.9	416.9
65°	441.8	416.9	376.9	384.4	319.5
67.5°	362.0	349.5	314.5	279.6	269.6
70°	294.6	279.6	267.1	229.7	219.7
72.5°	234.7	219.7	202.2	182.2	174.7
75°	177.2	164.8	154.8	147.3	162.3
77.5°	122.3	117.3	109.8	102.3	99.9
80°	79.9	77.4	74.9	72.4	69.9
82.5°	47.4	47.4	47.4	47.4	47.4
85°	25.0	27.5	30.0	32.5	34.9
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)