

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: P590171

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-80-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590171
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-40-UNV-80-96-EDD
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4792.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

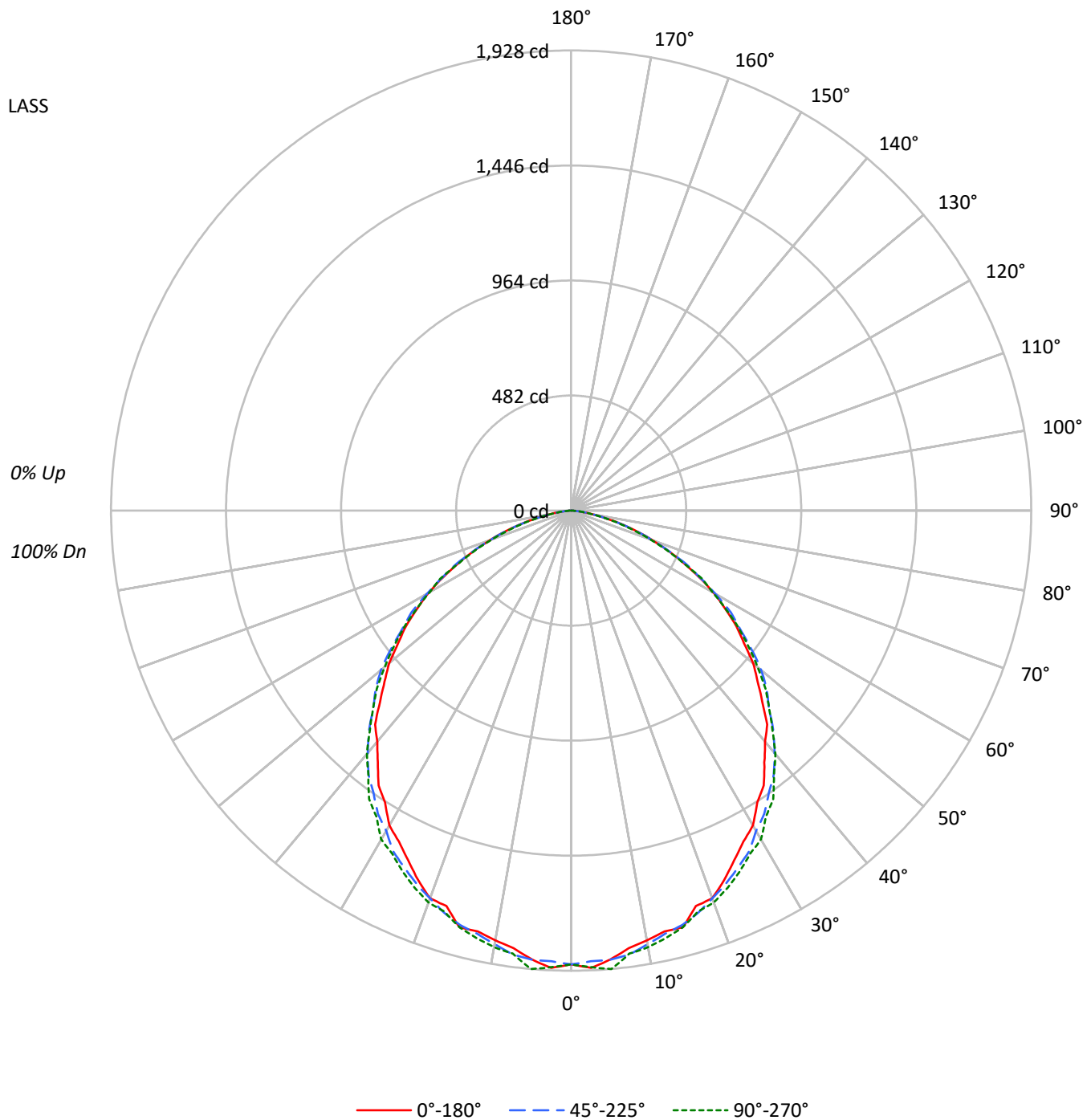
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5116	5116	5116
5°	5099	5102	5209
10°	4996	5040	5075
15°	5036	5008	5036
20°	4951	4951	5003
25°	4798	4903	4957
30°	4732	4816	4944
35°	4621	4742	4848
40°	4441	4655	4676
45°	4307	4460	4467
50°	4165	4353	4270
55°	3969	4046	4017
60°	3711	3749	3681
65°	3309	3394	3286
70°	2840	2849	2769
75°	2249	2244	2156
80°	1506	1464	1407
85°	818	812	756

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4575 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.8	3.7
10°-20°	506.9	10.6
20°-30°	759.4	15.8
30°-40°	900.1	18.8
40°-50°	901.7	18.8
50°-60°	765.4	16.0
60°-70°	516.0	10.8
70°-80°	226.8	4.7
80°-90°	36.8	0.8
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°	1445.2	30.2
0°-40°	2345.2	48.9
0°-60°	4012.4	83.7
0°-90°	4792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4792.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1901	1901	1901	1901	1901	
5°	1888	1883	1889	1883	1928	178
15°	1808	1787	1798	1807	1808	504
25°	1616	1625	1651	1673	1670	747
35°	1407	1411	1444	1477	1476	873
45°	1132	1153	1172	1202	1174	875
55°	846	840	862	856	856	753
65°	520	513	533	513	516	517
75°	216	212	216	201	207	232
85°	26	26	26	26	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1901.3	1901.3	1901.3	1901.3	1901.3
2.5°	1917.8	1903.3	1889.8	1905.5	1915.1
5°	1887.8	1883.4	1888.6	1882.9	1928.3
7.5°	1849.1	1866.0	1875.8	1869.7	1872.4
10°	1828.4	1822.5	1844.4	1859.6	1857.4
12.5°	1806.3	1815.2	1816.4	1832.9	1834.3
15°	1807.6	1786.7	1797.7	1807.1	1807.8
17.5°	1737.4	1759.9	1767.6	1788.9	1762.4
20°	1728.8	1712.3	1728.8	1750.6	1747.2
22.5°	1676.0	1657.6	1692.9	1712.3	1711.1
25°	1616.1	1624.9	1651.4	1673.0	1669.6
27.5°	1563.5	1573.9	1611.7	1641.4	1622.2
30°	1523.0	1517.9	1549.8	1576.3	1591.0
32.5°	1450.6	1469.3	1506.6	1532.9	1518.9
35°	1406.7	1410.8	1443.5	1476.9	1475.9
37.5°	1329.8	1349.2	1395.1	1404.5	1395.9
40°	1264.3	1283.7	1325.2	1335.2	1331.1
42.5°	1215.9	1219.4	1255.0	1266.5	1248.1
45°	1131.7	1152.8	1172.0	1202.2	1173.7
47.5°	1060.0	1069.9	1111.1	1119.2	1104.2
50°	995.0	998.4	1039.9	1029.8	1020.0
52.5°	913.2	927.7	951.0	949.1	937.5
55°	846.0	840.3	862.4	856.5	856.3
57.5°	765.2	775.0	793.2	783.9	768.9
60°	689.6	689.8	696.5	685.9	683.9
62.5°	605.4	608.3	609.8	596.8	617.9
65°	519.7	512.8	533.0	512.6	516.0
67.5°	440.9	444.3	442.4	429.6	434.5
70°	360.9	365.3	362.1	347.6	352.0
72.5°	287.7	282.3	285.8	267.6	275.9
75°	216.3	211.9	215.8	200.6	207.4
77.5°	147.3	150.7	148.3	140.2	144.8
80°	97.2	94.5	94.5	89.9	90.8
82.5°	56.7	54.0	53.3	51.8	54.0
85°	26.5	25.8	26.3	25.5	24.5
87.5°	9.6	9.8	9.8	9.3	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)