

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: P590865

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590865
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-LD4-4LO-40-UNV-93-88-EDD
Description: 2X2 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: 4980.0 lumens
Efficiency: N/A
Efficacy: 106.4 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

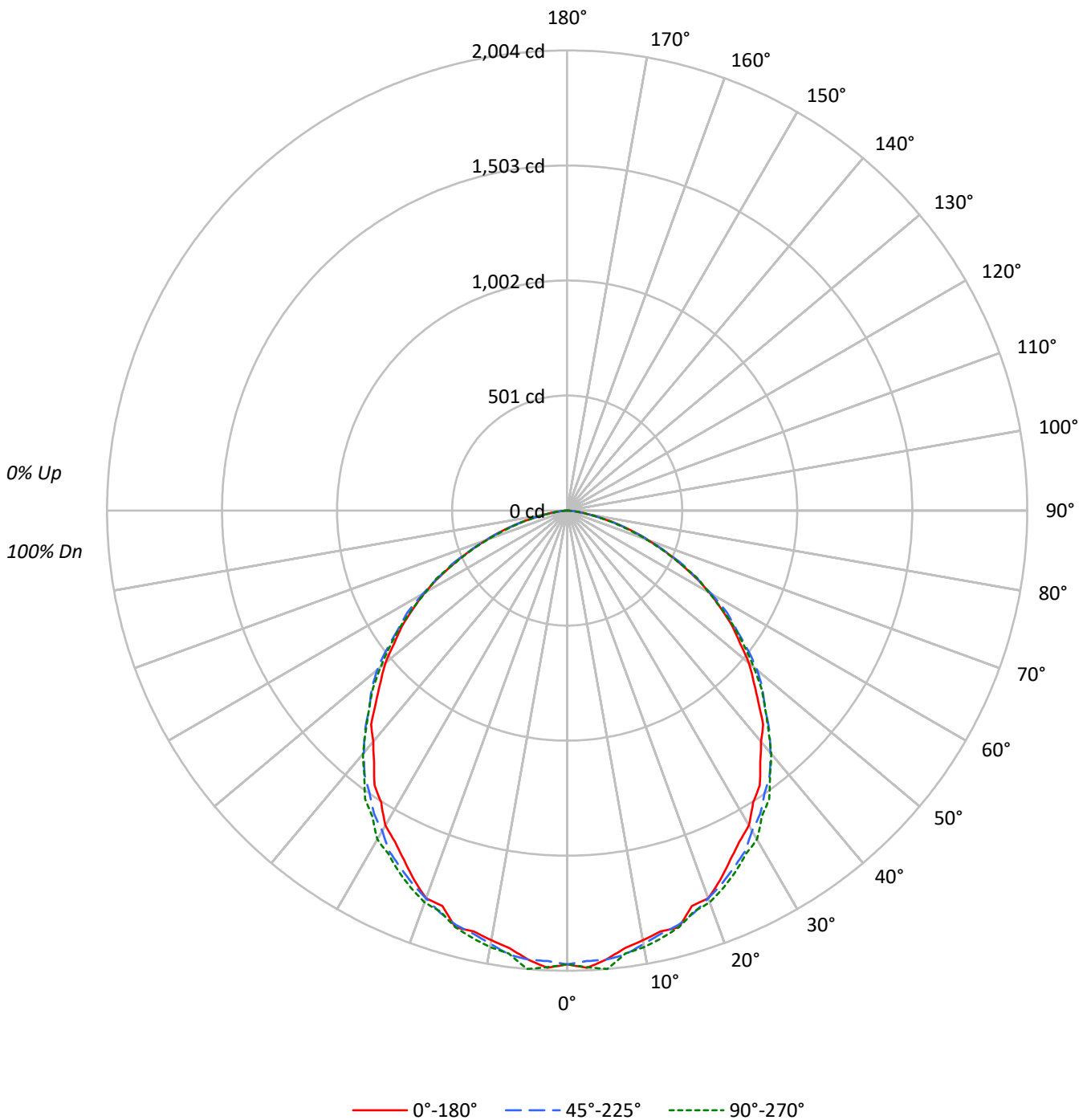
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5317	5317	5317
5°	5300	5302	5413
10°	5192	5237	5275
15°	5233	5205	5234
20°	5145	5145	5200
25°	4987	5096	5152
30°	4918	5005	5138
35°	4802	4928	5039
40°	4615	4838	4859
45°	4476	4635	4642
50°	4329	4524	4438
55°	4125	4205	4175
60°	3857	3895	3825
65°	3439	3527	3415
70°	2950	2961	2878
75°	2337	2332	2242
80°	1565	1522	1463
85°	852	843	787

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4754 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.9	3.7
10°-20°	526.8	10.6
20°-30°	789.2	15.8
30°-40°	935.4	18.8
40°-50°	937.1	18.8
50°-60°	795.4	16.0
60°-70°	536.3	10.8
70°-80°	235.7	4.7
80°-90°	38.3	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°	1501.9	30.2
0°-40°	2437.2	48.9
0°-60°	4169.8	83.7
0°-90°	4980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4980.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1976	1976	1976	1976	1976	
5°	1962	1957	1963	1957	2004	185
15°	1878	1857	1868	1878	1879	523
25°	1680	1689	1716	1739	1735	776
35°	1462	1466	1500	1535	1534	908
45°	1176	1198	1218	1249	1220	910
55°	879	873	896	890	890	782
65°	540	533	554	533	536	537
75°	225	220	224	208	216	241
85°	28	27	27	26	26	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1975.9	1975.9	1975.9	1975.9	1975.9
2.5°	1993.0	1978.0	1963.9	1980.3	1990.2
5°	1961.9	1957.3	1962.7	1956.8	2004.0
7.5°	1921.6	1939.2	1949.4	1943.0	1945.8
10°	1900.2	1894.0	1916.7	1932.6	1930.3
12.5°	1877.2	1886.4	1887.7	1904.8	1906.3
15°	1878.5	1856.8	1868.3	1878.0	1878.7
17.5°	1805.5	1829.0	1836.9	1859.1	1831.5
20°	1796.6	1779.5	1796.6	1819.3	1815.7
22.5°	1741.7	1722.6	1759.3	1779.5	1778.2
25°	1679.5	1688.7	1716.2	1738.7	1735.1
27.5°	1624.9	1635.6	1674.9	1705.8	1685.9
30°	1582.8	1577.4	1610.6	1638.2	1653.5
32.5°	1507.5	1526.9	1565.7	1593.0	1578.5
35°	1461.9	1466.2	1500.1	1534.8	1533.8
37.5°	1382.0	1402.2	1449.9	1459.6	1450.6
40°	1313.9	1334.0	1377.2	1387.6	1383.3
42.5°	1263.6	1267.2	1304.2	1316.2	1297.1
45°	1176.1	1198.1	1218.0	1249.3	1219.7
47.5°	1101.6	1111.8	1154.7	1163.1	1147.5
50°	1034.0	1037.6	1080.7	1070.2	1060.0
52.5°	949.1	964.1	988.4	986.3	974.3
55°	879.2	873.3	896.3	890.1	889.9
57.5°	795.2	805.4	824.3	814.6	799.0
60°	716.6	716.9	723.8	712.8	710.8
62.5°	629.1	632.2	633.7	620.2	642.1
65°	540.1	533.0	553.9	532.7	536.3
67.5°	458.2	461.8	459.7	446.5	451.6
70°	375.0	379.6	376.3	361.3	365.8
72.5°	299.0	293.4	297.0	278.1	286.8
75°	224.8	220.2	224.3	208.4	215.6
77.5°	153.1	156.6	154.1	145.7	150.5
80°	101.0	98.2	98.2	93.4	94.4
82.5°	58.9	56.1	55.4	53.8	56.1
85°	27.6	26.8	27.3	26.5	25.5
87.5°	9.9	10.2	10.2	9.7	9.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)