

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: P590190

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590190
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4748.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

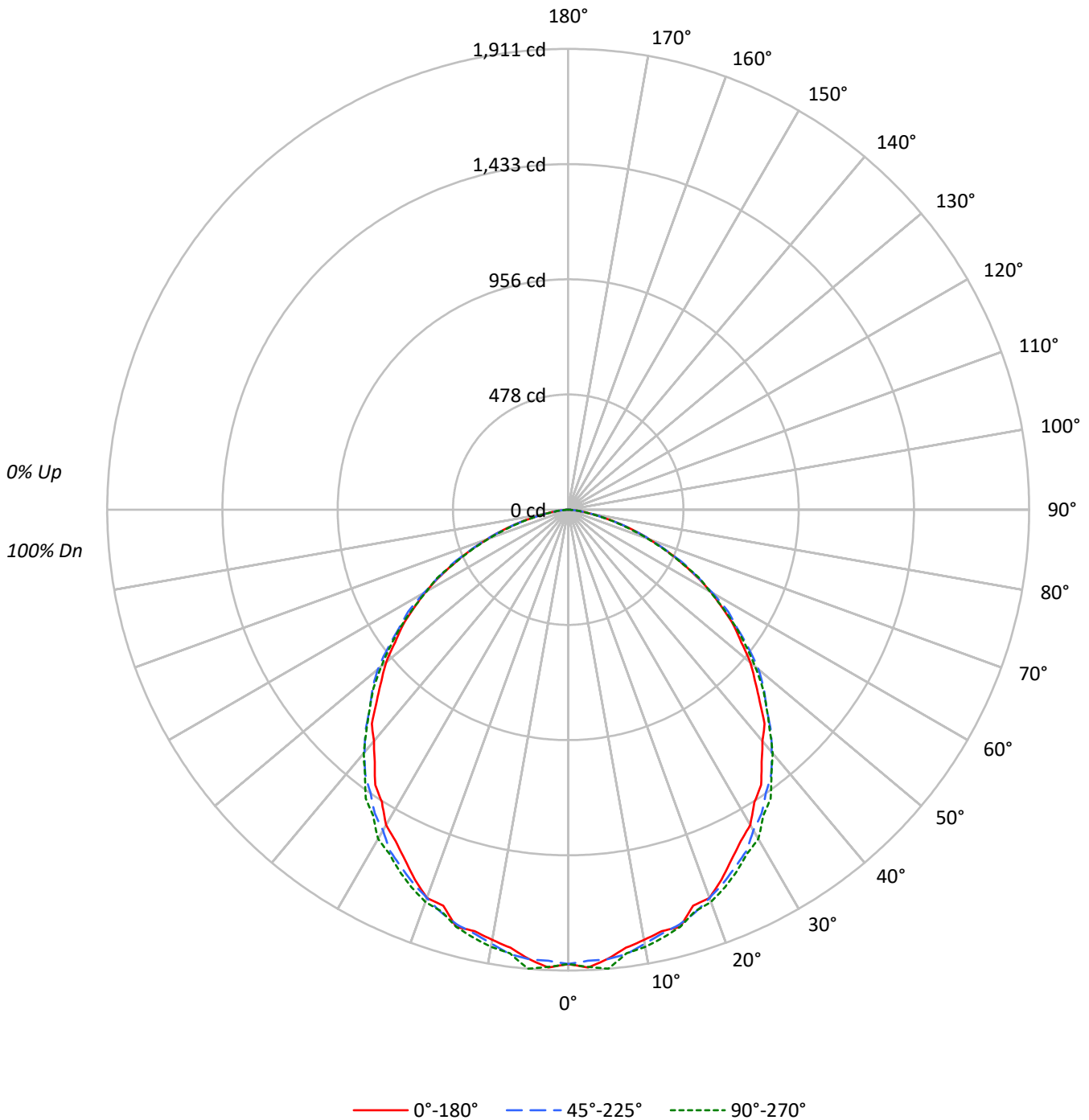
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5070	5070	5070
5°	5053	5055	5161
10°	4950	4994	5029
15°	4990	4962	4990
20°	4905	4905	4957
25°	4754	4858	4912
30°	4689	4772	4898
35°	4579	4698	4804
40°	4401	4612	4633
45°	4267	4419	4426
50°	4127	4314	4231
55°	3932	4009	3980
60°	3677	3714	3647
65°	3279	3363	3256
70°	2814	2823	2744
75°	2228	2223	2137
80°	1492	1450	1395
85°	812	803	750

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4533 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.2	3.7
10°-20°	502.2	10.6
20°-30°	752.4	15.8
30°-40°	891.8	18.8
40°-50°	893.4	18.8
50°-60°	758.4	16.0
60°-70°	511.3	10.8
70°-80°	224.7	4.7
80°-90°	36.5	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°	1431.9	30.2
0°-40°	2323.7	48.9
0°-60°	3975.5	83.7
0°-90°	4748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4748.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1884	1884	1884	1884	1884	
5°	1870	1866	1871	1866	1911	176
15°	1791	1770	1781	1790	1791	499
25°	1601	1610	1636	1658	1654	740
35°	1394	1398	1430	1463	1462	865
45°	1121	1142	1161	1191	1163	867
55°	838	833	854	849	848	746
65°	515	508	528	508	511	512
75°	214	210	214	199	206	230
85°	26	26	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1883.9	1883.9	1883.9	1883.9	1883.9
2.5°	1900.2	1885.8	1872.5	1888.0	1897.5
5°	1870.5	1866.1	1871.2	1865.6	1910.6
7.5°	1832.1	1848.9	1858.6	1852.5	1855.2
10°	1811.6	1805.8	1827.5	1842.5	1840.3
12.5°	1789.8	1798.5	1799.7	1816.0	1817.5
15°	1791.0	1770.3	1781.2	1790.5	1791.2
17.5°	1721.4	1743.8	1751.3	1772.5	1746.2
20°	1712.9	1696.6	1712.9	1734.5	1731.1
22.5°	1660.6	1642.4	1677.4	1696.6	1695.4
25°	1601.2	1610.0	1636.3	1657.7	1654.3
27.5°	1549.2	1559.4	1596.9	1626.3	1607.3
30°	1509.1	1503.9	1535.6	1561.8	1576.4
32.5°	1437.3	1455.8	1492.8	1518.8	1504.9
35°	1393.8	1397.9	1430.2	1463.3	1462.4
37.5°	1317.6	1336.8	1382.3	1391.6	1383.1
40°	1252.7	1271.9	1313.0	1323.0	1318.8
42.5°	1204.8	1208.2	1243.4	1254.9	1236.6
45°	1121.3	1142.3	1161.2	1191.1	1162.9
47.5°	1050.3	1060.0	1100.9	1108.9	1094.1
50°	985.8	989.3	1030.4	1020.4	1010.7
52.5°	904.8	919.2	942.3	940.4	928.9
55°	838.2	832.6	854.5	848.7	848.4
57.5°	758.2	767.9	785.9	776.7	761.8
60°	683.3	683.5	690.1	679.6	677.7
62.5°	599.8	602.7	604.2	591.3	612.2
65°	514.9	508.1	528.1	507.9	511.3
67.5°	436.9	440.3	438.3	425.7	430.5
70°	357.6	361.9	358.8	344.4	348.8
72.5°	285.1	279.7	283.1	265.1	273.4
75°	214.3	209.9	213.8	198.7	205.5
77.5°	145.9	149.3	146.9	138.9	143.5
80°	96.3	93.6	93.6	89.0	90.0
82.5°	56.2	53.5	52.8	51.3	53.5
85°	26.3	25.5	26.0	25.3	24.3
87.5°	9.5	9.7	9.7	9.2	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)