

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: P590178

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590178
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-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4603.0 lumens
Efficiency: N/A
Efficacy: 106.6 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

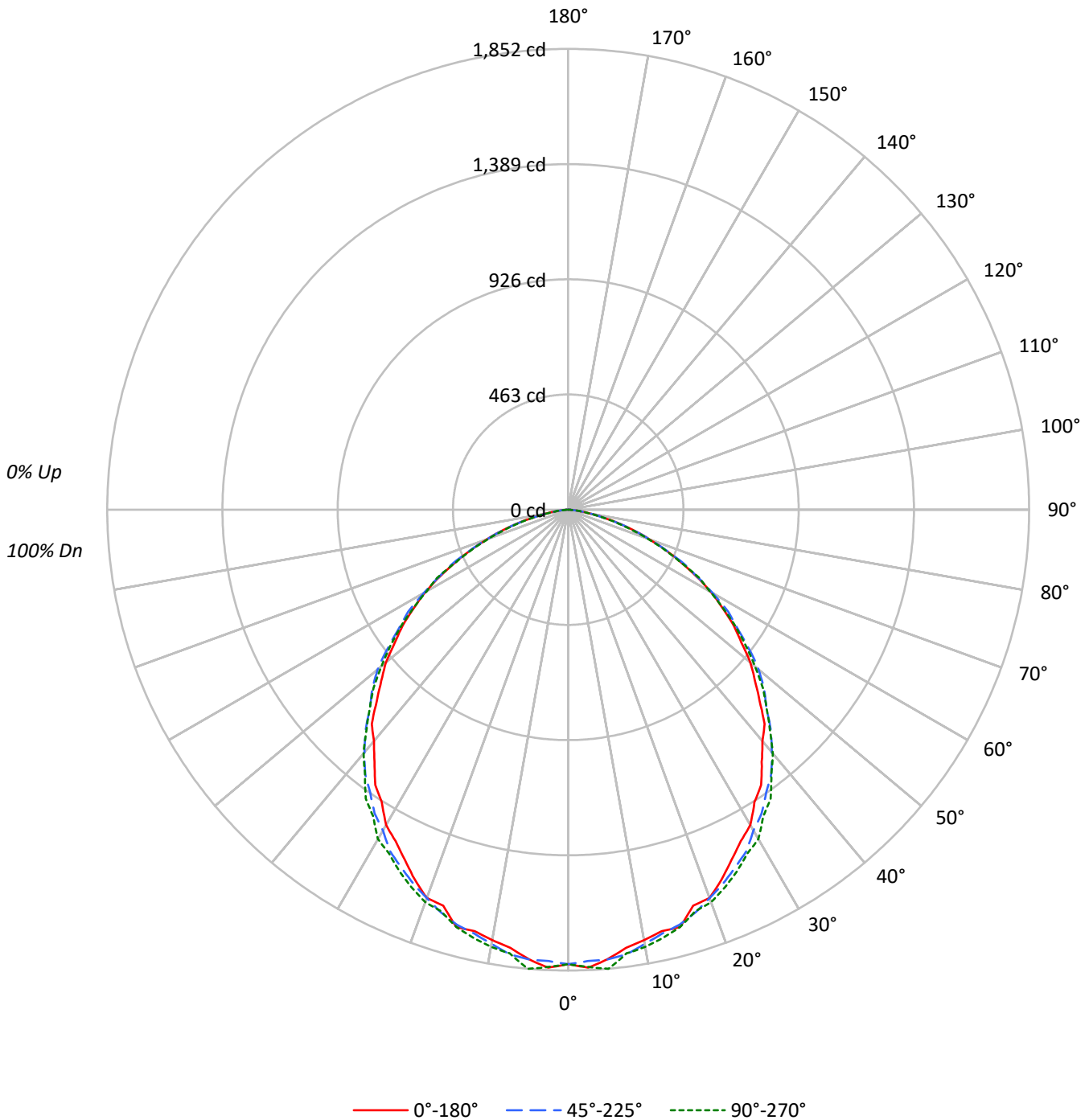
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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																												
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°	4915	4915	4915
5°	4898	4900	5004
10°	4799	4841	4875
15°	4837	4811	4838
20°	4755	4755	4806
25°	4609	4710	4762
30°	4546	4626	4749
35°	4439	4555	4657
40°	4266	4471	4491
45°	4137	4284	4290
50°	4001	4182	4102
55°	3812	3887	3859
60°	3565	3601	3536
65°	3179	3259	3156
70°	2727	2736	2661
75°	2159	2155	2072
80°	1447	1407	1351
85°	787	778	729

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4395 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	3.7
10°-20°	486.9	10.6
20°-30°	729.5	15.8
30°-40°	864.6	18.8
40°-50°	866.2	18.8
50°-60°	735.2	16.0
60°-70°	495.7	10.8
70°-80°	217.8	4.7
80°-90°	35.4	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°	1388.2	30.2
0°-40°	2252.7	48.9
0°-60°	3854.1	83.7
0°-90°	4603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1826	1826	1826	1826	1826	
5°	1813	1809	1814	1809	1852	171
15°	1736	1716	1727	1736	1736	484
25°	1552	1561	1586	1607	1604	718
35°	1351	1355	1387	1419	1418	839
45°	1087	1107	1126	1155	1127	841
55°	813	807	828	823	822	723
65°	499	493	512	492	496	496
75°	208	204	207	193	199	223
85°	26	25	25	24	24	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1826.4	1826.4	1826.4	1826.4	1826.4
2.5°	1842.2	1828.2	1815.3	1830.4	1839.6
5°	1813.4	1809.1	1814.1	1808.7	1852.3
7.5°	1776.1	1792.4	1801.8	1795.9	1798.5
10°	1756.3	1750.7	1771.6	1786.3	1784.1
12.5°	1735.1	1743.6	1744.8	1760.6	1762.0
15°	1736.3	1716.2	1726.8	1735.8	1736.5
17.5°	1668.8	1690.5	1697.8	1718.4	1692.9
20°	1660.6	1644.8	1660.6	1681.6	1678.3
22.5°	1609.9	1592.2	1626.2	1644.8	1643.6
25°	1552.3	1560.8	1586.3	1607.1	1603.7
27.5°	1501.9	1511.8	1548.1	1576.6	1558.2
30°	1463.0	1458.0	1488.7	1514.1	1528.3
32.5°	1393.4	1411.3	1447.2	1472.4	1459.0
35°	1351.2	1355.2	1386.6	1418.6	1417.7
37.5°	1277.4	1296.0	1340.1	1349.1	1340.8
40°	1214.4	1233.1	1272.9	1282.6	1278.6
42.5°	1168.0	1171.3	1205.5	1216.5	1198.9
45°	1087.1	1107.4	1125.8	1154.8	1127.4
47.5°	1018.2	1027.7	1067.3	1075.1	1060.7
50°	955.7	959.0	998.9	989.2	979.8
52.5°	877.2	891.1	913.5	911.6	900.6
55°	812.6	807.2	828.4	822.7	822.5
57.5°	735.0	744.5	761.9	752.9	738.6
60°	662.4	662.6	669.0	658.9	657.0
62.5°	581.5	584.3	585.8	573.3	593.5
65°	499.2	492.6	511.9	492.4	495.7
67.5°	423.5	426.8	424.9	412.7	417.4
70°	346.6	350.9	347.8	333.9	338.2
72.5°	276.4	271.2	274.5	257.0	265.1
75°	207.7	203.5	207.3	192.7	199.3
77.5°	141.5	144.8	142.4	134.6	139.1
80°	93.4	90.8	90.8	86.3	87.2
82.5°	54.5	51.9	51.2	49.8	51.9
85°	25.5	24.8	25.2	24.5	23.6
87.5°	9.2	9.4	9.4	9.0	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)