

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: P590156

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-82-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590156
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-35-UNV-82-97-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4346.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

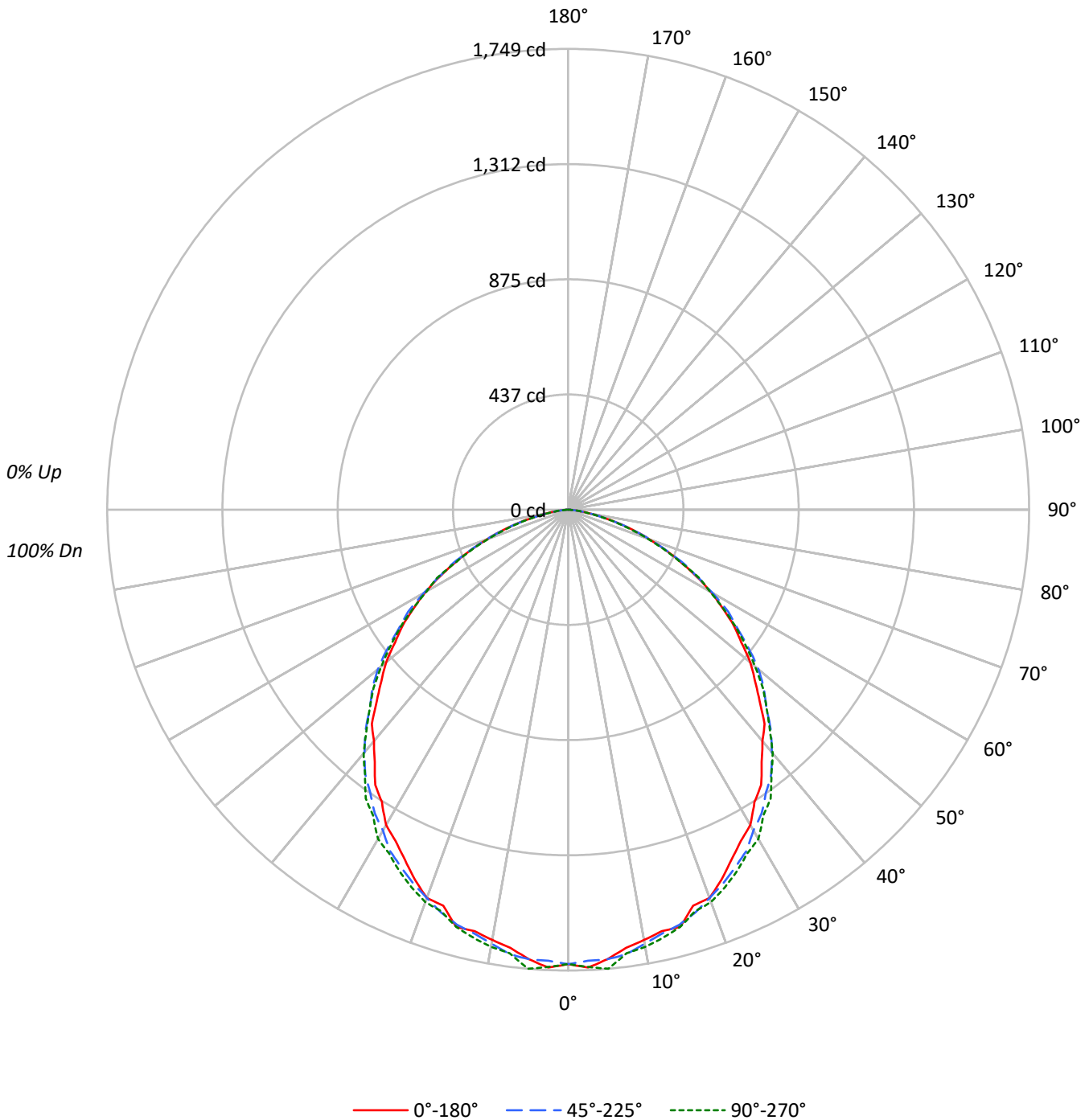
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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°	4640	4640	4640
5°	4625	4627	4724
10°	4531	4571	4603
15°	4567	4542	4568
20°	4490	4490	4538
25°	4352	4447	4496
30°	4292	4368	4484
35°	4191	4301	4397
40°	4028	4222	4241
45°	3906	4045	4051
50°	3778	3948	3873
55°	3599	3670	3643
60°	3366	3399	3338
65°	3001	3078	2980
70°	2575	2584	2512
75°	2039	2035	1956
80°	1367	1328	1277
85°	741	735	689

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4149 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.2	3.7
10°-20°	459.7	10.6
20°-30°	688.7	15.8
30°-40°	816.3	18.8
40°-50°	817.8	18.8
50°-60°	694.2	16.0
60°-70°	468.0	10.8
70°-80°	205.6	4.7
80°-90°	33.4	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°	1310.6	30.2
0°-40°	2126.9	48.9
0°-60°	3638.9	83.7
0°-90°	4346.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4346.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1724	1724	1724	1724	1724	
5°	1712	1708	1713	1708	1749	161
15°	1639	1620	1630	1639	1640	457
25°	1466	1474	1498	1517	1514	678
35°	1276	1280	1309	1339	1338	792
45°	1026	1046	1063	1090	1064	794
55°	767	762	782	777	777	682
65°	471	465	483	465	468	469
75°	196	192	196	182	188	210
85°	24	23	24	23	22	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1724.4	1724.4	1724.4	1724.4	1724.4
2.5°	1739.3	1726.2	1713.9	1728.2	1736.9
5°	1712.1	1708.1	1712.8	1707.7	1748.9
7.5°	1677.0	1692.3	1701.2	1695.7	1698.1
10°	1658.3	1652.9	1672.7	1686.5	1684.5
12.5°	1638.2	1646.2	1647.3	1662.3	1663.6
15°	1639.3	1620.4	1630.4	1638.9	1639.6
17.5°	1575.7	1596.1	1603.0	1622.4	1598.4
20°	1567.9	1552.9	1567.9	1587.7	1584.6
22.5°	1520.0	1503.3	1535.4	1552.9	1551.8
25°	1465.7	1473.7	1497.7	1517.3	1514.2
27.5°	1418.0	1427.4	1461.7	1488.6	1471.2
30°	1381.3	1376.6	1405.6	1429.6	1443.0
32.5°	1315.6	1332.5	1366.4	1390.2	1377.5
35°	1275.8	1279.5	1309.2	1339.4	1338.5
37.5°	1206.1	1223.7	1265.3	1273.8	1266.0
40°	1146.6	1164.2	1201.8	1211.0	1207.2
42.5°	1102.8	1105.9	1138.2	1148.6	1131.9
45°	1026.4	1045.5	1062.9	1090.3	1064.5
47.5°	961.4	970.3	1007.7	1015.0	1001.5
50°	902.4	905.5	943.1	934.0	925.1
52.5°	828.2	841.4	862.5	860.7	850.3
55°	767.2	762.1	782.2	776.8	776.6
57.5°	694.0	702.9	719.4	710.9	697.3
60°	625.4	625.6	631.6	622.1	620.3
62.5°	549.0	551.7	553.0	541.2	560.4
65°	471.3	465.1	483.4	464.9	468.0
67.5°	399.9	403.0	401.2	389.6	394.1
70°	327.3	331.3	328.4	315.3	319.3
72.5°	260.9	256.0	259.2	242.7	250.3
75°	196.1	192.1	195.7	181.9	188.1
77.5°	133.6	136.7	134.5	127.1	131.4
80°	88.2	85.7	85.7	81.5	82.4
82.5°	51.4	49.0	48.3	47.0	49.0
85°	24.0	23.4	23.8	23.2	22.3
87.5°	8.7	8.9	8.9	8.5	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)