

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: P590548

Luminaire Tested: FSR-24-2-LD4-3LO-35-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590548
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-LD4-3LO-35-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4186.0 lumens
Efficiency: N/A
Efficacy: 119.3 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

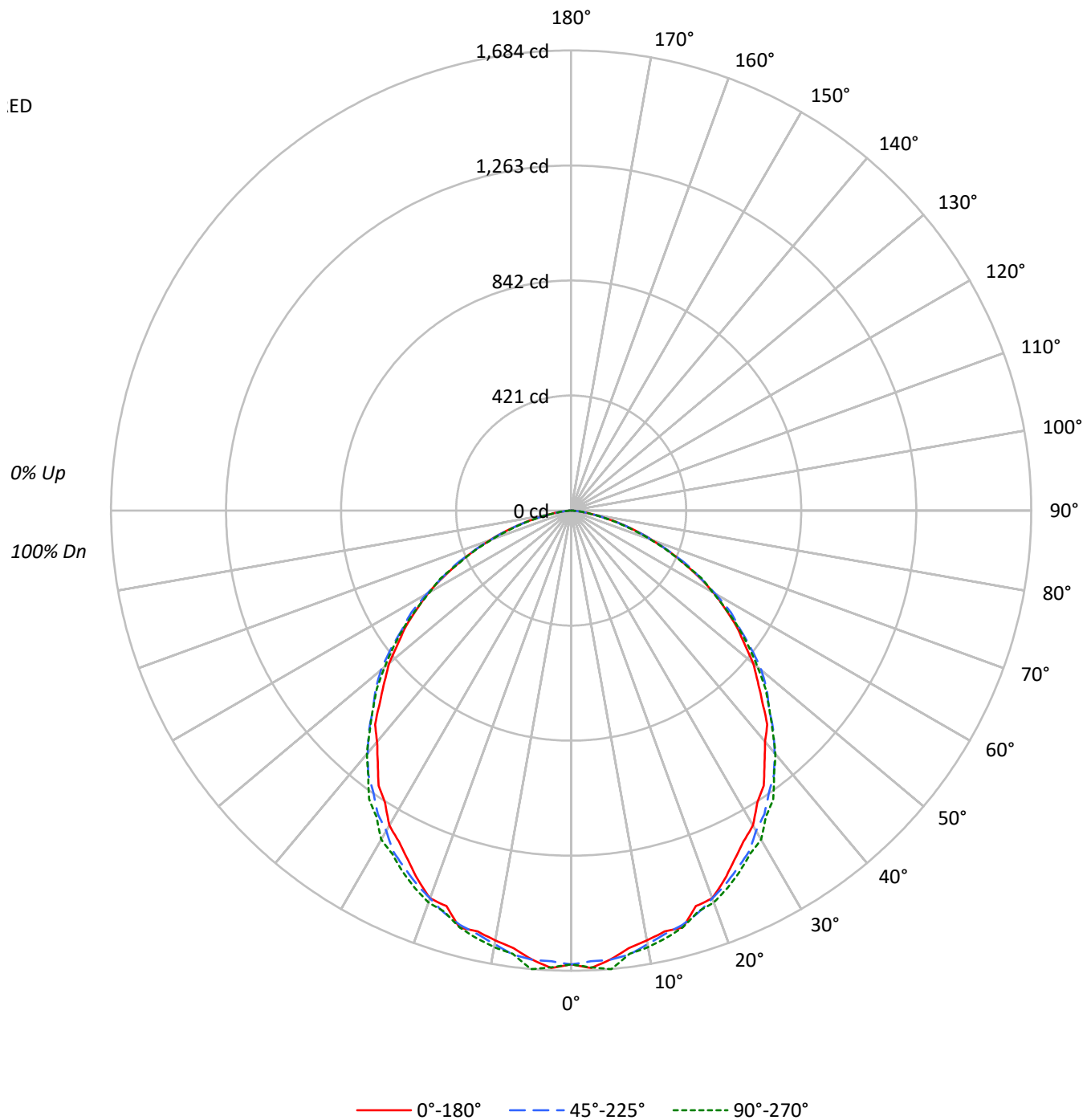
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4469	4469	4469
5°	4455	4456	4550
10°	4364	4402	4433
15°	4399	4375	4400
20°	4324	4324	4371
25°	4192	4283	4331
30°	4134	4207	4318
35°	4037	4142	4235
40°	3880	4066	4084
45°	3762	3896	3902
50°	3639	3803	3730
55°	3467	3535	3509
60°	3242	3274	3216
65°	2891	2965	2870
70°	2480	2489	2419
75°	1964	1960	1884
80°	1316	1280	1229
85°	716	707	661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3997 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.2	3.7
10°-20°	442.8	10.6
20°-30°	663.4	15.8
30°-40°	786.2	18.8
40°-50°	787.7	18.8
50°-60°	668.6	16.0
60°-70°	450.8	10.8
70°-80°	198.1	4.7
80°-90°	32.2	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°	1262.4	30.2
0°-40°	2048.6	48.9
0°-60°	3505.0	83.7
0°-90°	4186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4186.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1661	1661	1661	1661	1661	
5°	1649	1645	1650	1645	1684	155
15°	1579	1561	1570	1579	1579	440
25°	1412	1419	1443	1462	1458	653
35°	1229	1232	1261	1290	1289	763
45°	989	1007	1024	1050	1025	765
55°	739	734	753	748	748	657
65°	454	448	466	448	451	451
75°	189	185	188	175	181	202
85°	23	22	23	22	21	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1660.9	1660.9	1660.9	1660.9	1660.9
2.5°	1675.3	1662.6	1650.8	1664.5	1672.9
5°	1649.1	1645.2	1649.7	1644.8	1684.5
7.5°	1615.2	1630.0	1638.6	1633.2	1635.6
10°	1597.2	1592.1	1611.1	1624.4	1622.5
12.5°	1577.9	1585.6	1586.7	1601.1	1602.4
15°	1579.0	1560.8	1570.4	1578.6	1579.2
17.5°	1517.6	1537.4	1544.0	1562.7	1539.5
20°	1510.1	1495.8	1510.1	1529.2	1526.2
22.5°	1464.0	1448.0	1478.8	1495.8	1494.7
25°	1411.7	1419.4	1442.6	1461.5	1458.5
27.5°	1365.8	1374.8	1407.9	1433.8	1417.1
30°	1330.4	1325.9	1353.8	1377.0	1389.8
32.5°	1267.2	1283.5	1316.1	1339.0	1326.8
35°	1228.8	1232.4	1261.0	1290.1	1289.3
37.5°	1161.7	1178.6	1218.7	1226.9	1219.4
40°	1104.4	1121.3	1157.6	1166.4	1162.7
42.5°	1062.2	1065.2	1096.3	1106.3	1090.3
45°	988.6	1007.0	1023.8	1050.2	1025.3
47.5°	926.0	934.6	970.6	977.7	964.6
50°	869.2	872.2	908.4	899.6	891.0
52.5°	797.7	810.4	830.8	829.1	819.0
55°	739.0	734.1	753.4	748.2	748.0
57.5°	668.4	677.0	692.9	684.7	671.7
60°	602.4	602.6	608.4	599.2	597.5
62.5°	528.8	531.4	532.7	521.3	539.8
65°	454.0	448.0	465.6	447.8	450.8
67.5°	385.1	388.2	386.4	375.3	379.6
70°	315.2	319.1	316.3	303.7	307.5
72.5°	251.3	246.6	249.6	233.7	241.0
75°	188.9	185.1	188.5	175.2	181.2
77.5°	128.7	131.7	129.5	122.4	126.5
80°	84.9	82.6	82.6	78.5	79.3
82.5°	49.5	47.2	46.5	45.2	47.2
85°	23.2	22.5	22.9	22.3	21.4
87.5°	8.4	8.6	8.6	8.1	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)