

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: P590193

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

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590193
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-93-88-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: 4090.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

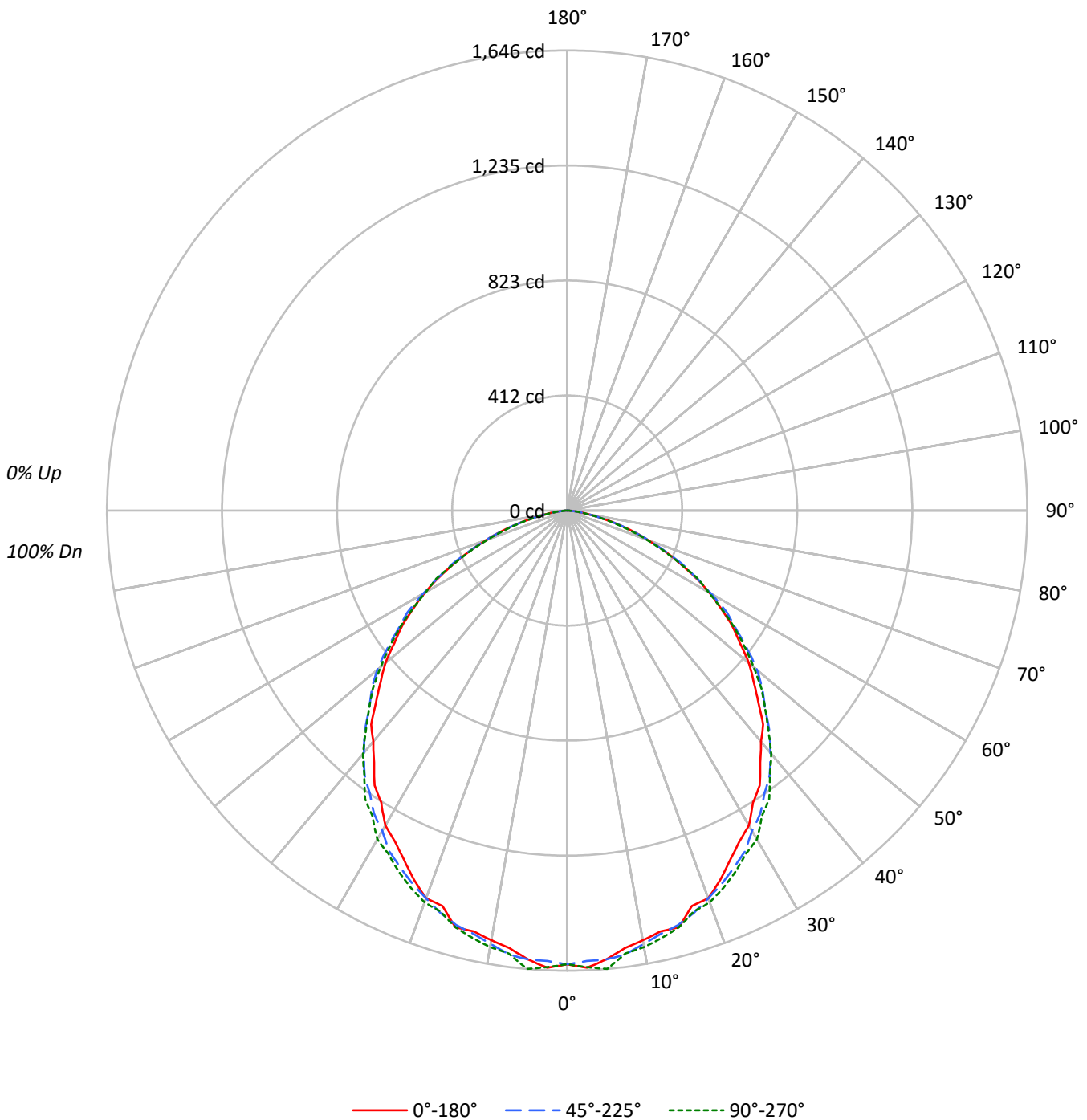
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4367	4367	4367
5°	4353	4354	4446
10°	4264	4301	4332
15°	4298	4275	4299
20°	4225	4225	4270
25°	4095	4185	4231
30°	4039	4110	4220
35°	3944	4047	4138
40°	3791	3973	3991
45°	3676	3807	3812
50°	3555	3716	3645
55°	3387	3453	3429
60°	3168	3199	3142
65°	2825	2897	2804
70°	2423	2432	2364
75°	1919	1915	1841
80°	1286	1251	1201
85°	698	692	648

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3905 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.6	3.7
10°-20°	432.6	10.6
20°-30°	648.2	15.8
30°-40°	768.2	18.8
40°-50°	769.6	18.8
50°-60°	653.3	16.0
60°-70°	440.5	10.8
70°-80°	193.5	4.7
80°-90°	31.5	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°	1233.4	30.2
0°-40°	2001.6	48.9
0°-60°	3424.6	83.7
0°-90°	4090.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4090.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1623	1623	1623	1623	1623	
5°	1611	1608	1612	1607	1646	152
15°	1543	1525	1534	1542	1543	430
25°	1379	1387	1410	1428	1425	638
35°	1201	1204	1232	1260	1260	745
45°	966	984	1000	1026	1002	747
55°	722	717	736	731	731	642
65°	444	438	455	438	440	441
75°	185	181	184	171	177	198
85°	23	22	22	22	21	33
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1622.8	1622.8	1622.8	1622.8	1622.8
2.5°	1636.8	1624.5	1613.0	1626.4	1634.5
5°	1611.3	1607.5	1611.9	1607.1	1645.9
7.5°	1578.2	1592.6	1601.0	1595.8	1598.1
10°	1560.6	1555.5	1574.2	1587.2	1585.3
12.5°	1541.7	1549.3	1550.3	1564.3	1565.6
15°	1542.8	1525.0	1534.4	1542.3	1543.0
17.5°	1482.8	1502.1	1508.6	1526.8	1504.2
20°	1475.5	1461.5	1475.5	1494.2	1491.2
22.5°	1430.5	1414.7	1444.9	1461.5	1460.4
25°	1379.3	1386.9	1409.5	1427.9	1425.0
27.5°	1334.5	1343.3	1375.6	1400.9	1384.6
30°	1299.9	1295.5	1322.8	1345.4	1358.0
32.5°	1238.1	1254.0	1285.9	1308.3	1296.4
35°	1200.6	1204.2	1232.0	1260.5	1259.7
37.5°	1135.0	1151.6	1190.8	1198.7	1191.4
40°	1079.1	1095.6	1131.0	1139.6	1136.1
42.5°	1037.8	1040.7	1071.1	1081.0	1065.2
45°	965.9	984.0	1000.3	1026.1	1001.8
47.5°	904.7	913.1	948.3	955.2	942.5
50°	849.2	852.2	887.6	879.0	870.6
52.5°	779.5	791.8	811.7	810.0	800.2
55°	722.0	717.2	736.1	731.0	730.8
57.5°	653.1	661.5	677.0	669.0	656.2
60°	588.6	588.8	594.4	585.4	583.8
62.5°	516.7	519.2	520.5	509.4	527.4
65°	443.6	437.7	454.9	437.5	440.4
67.5°	376.3	379.2	377.6	366.7	370.9
70°	308.0	311.8	309.1	296.7	300.5
72.5°	245.6	241.0	243.9	228.4	235.5
75°	184.6	180.8	184.2	171.2	177.1
77.5°	125.7	128.7	126.6	119.6	123.6
80°	83.0	80.7	80.7	76.7	77.5
82.5°	48.4	46.1	45.5	44.2	46.1
85°	22.6	22.0	22.4	21.8	21.0
87.5°	8.2	8.4	8.4	8.0	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)