

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: P590574

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590574
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-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: 4336.0 lumens
Efficiency: N/A
Efficacy: 123.5 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

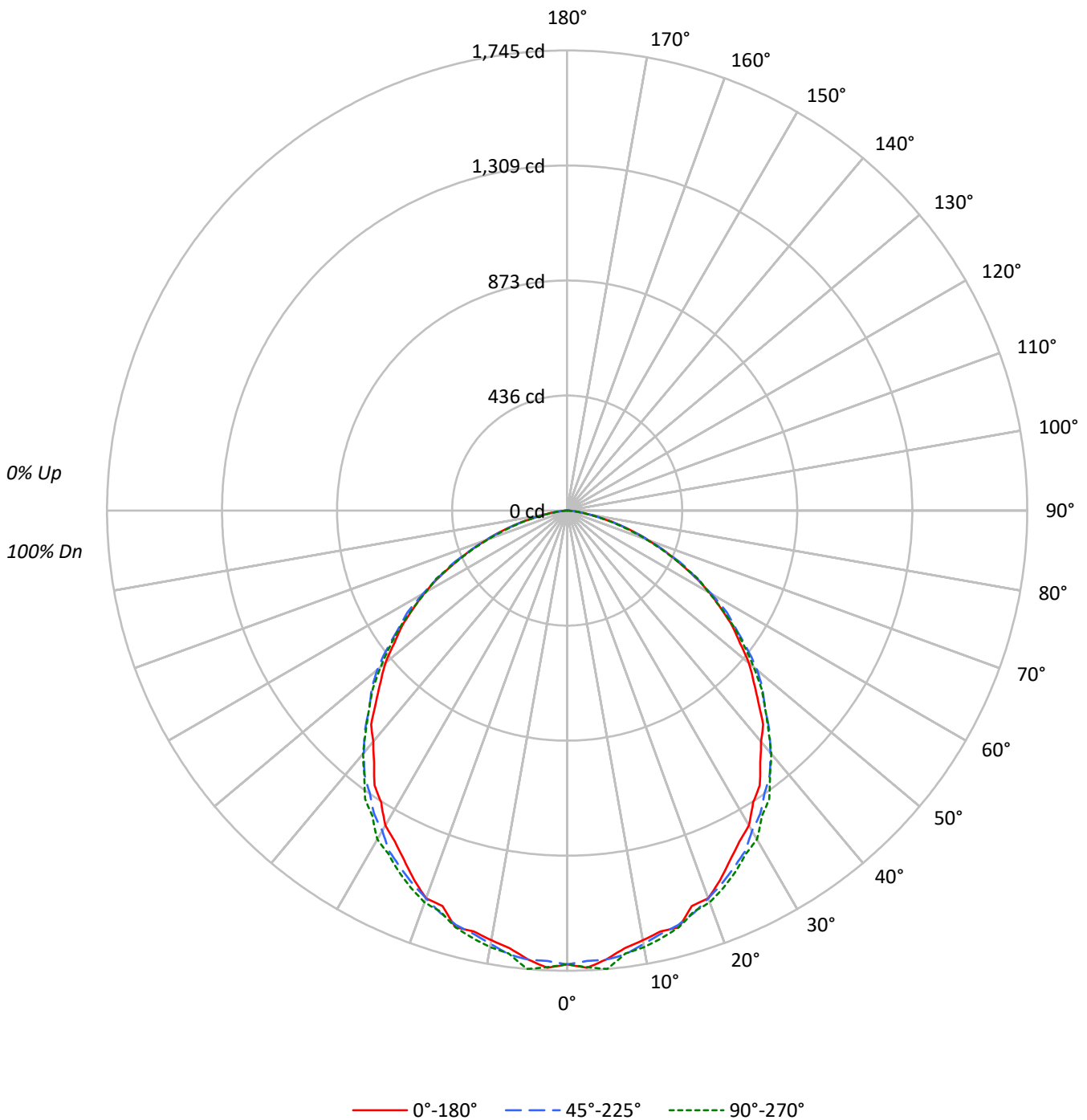
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4630	4630	4630
5°	4614	4616	4713
10°	4521	4560	4592
15°	4557	4532	4557
20°	4480	4480	4527
25°	4342	4437	4486
30°	4282	4357	4473
35°	4181	4291	4387
40°	4019	4212	4231
45°	3897	4036	4042
50°	3769	3939	3864
55°	3591	3661	3635
60°	3358	3392	3331
65°	2995	3070	2973
70°	2569	2578	2506
75°	2035	2031	1952
80°	1364	1325	1274
85°	741	735	685

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4140 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.8	3.7
10°-20°	458.7	10.6
20°-30°	687.2	15.8
30°-40°	814.4	18.8
40°-50°	815.9	18.8
50°-60°	692.6	16.0
60°-70°	466.9	10.8
70°-80°	205.2	4.7
80°-90°	33.3	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°	1307.6	30.2
0°-40°	2122.0	48.9
0°-60°	3630.6	83.7
0°-90°	4336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1720	1720	1720	1720	1720	
5°	1708	1704	1709	1704	1745	161
15°	1636	1617	1627	1635	1636	456
25°	1462	1470	1494	1514	1511	676
35°	1273	1277	1306	1336	1336	790
45°	1024	1043	1060	1088	1062	792
55°	766	760	780	775	775	681
65°	470	464	482	464	467	468
75°	196	192	195	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°	1720.4	1720.4	1720.4	1720.4	1720.4
2.5°	1735.3	1722.2	1710.0	1724.2	1732.9
5°	1708.2	1704.2	1708.9	1703.8	1744.8
7.5°	1673.1	1688.4	1697.3	1691.8	1694.2
10°	1654.4	1649.1	1668.9	1682.7	1680.7
12.5°	1634.5	1642.4	1643.6	1658.4	1659.8
15°	1635.6	1616.7	1626.7	1635.1	1635.8
17.5°	1572.0	1592.5	1599.4	1618.7	1594.7
20°	1564.3	1549.4	1564.3	1584.0	1580.9
22.5°	1516.5	1499.8	1531.8	1549.4	1548.3
25°	1462.3	1470.3	1494.3	1513.8	1510.7
27.5°	1414.8	1424.1	1458.3	1485.2	1467.9
30°	1378.1	1373.4	1402.3	1426.3	1439.6
32.5°	1312.6	1329.5	1363.2	1387.0	1374.3
35°	1272.8	1276.6	1306.1	1336.3	1335.5
37.5°	1203.3	1220.8	1262.4	1270.8	1263.0
40°	1144.0	1161.5	1199.1	1208.2	1204.4
42.5°	1100.2	1103.3	1135.5	1146.0	1129.3
45°	1024.0	1043.1	1060.5	1087.8	1062.0
47.5°	959.2	968.1	1005.4	1012.7	999.2
50°	900.3	903.4	941.0	931.8	923.0
52.5°	826.3	839.4	860.5	858.8	848.3
55°	765.5	760.4	780.4	775.0	774.8
57.5°	692.4	701.3	717.7	709.3	695.7
60°	624.0	624.2	630.2	620.6	618.9
62.5°	547.8	550.4	551.8	540.0	559.1
65°	470.3	464.0	482.2	463.8	466.9
67.5°	398.9	402.1	400.3	388.7	393.2
70°	326.5	330.5	327.6	314.5	318.5
72.5°	260.3	255.5	258.6	242.1	249.7
75°	195.7	191.7	195.3	181.5	187.7
77.5°	133.3	136.4	134.2	126.8	131.1
80°	88.0	85.5	85.5	81.3	82.2
82.5°	51.3	48.9	48.2	46.9	48.9
85°	24.0	23.3	23.8	23.1	22.2
87.5°	8.7	8.9	8.9	8.4	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)