

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: P590543

Luminaire Tested: FSR-24-2-LD4-3LO-35-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590543
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-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4244.0 lumens
Efficiency: N/A
Efficacy: 120.9 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

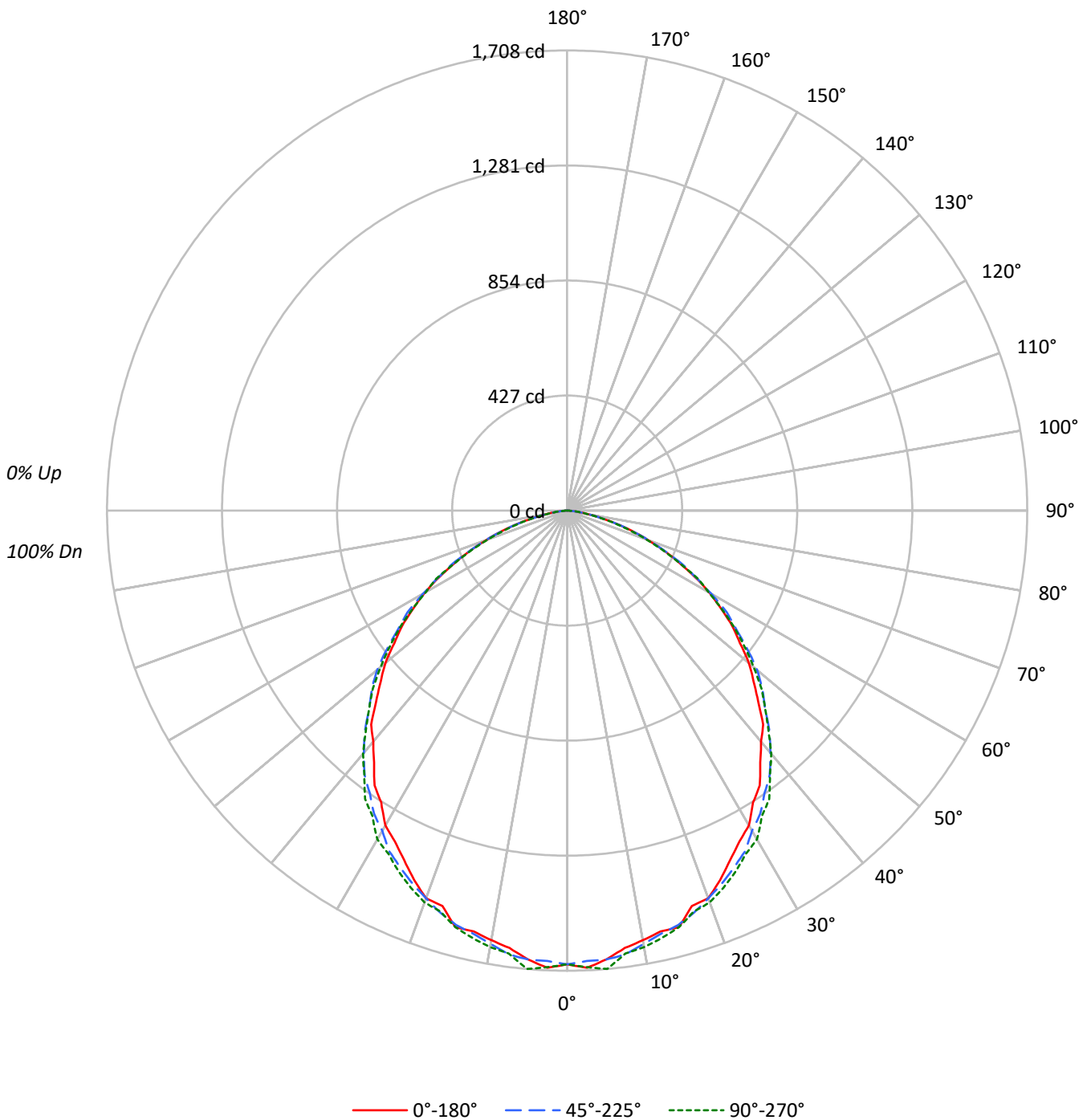
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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									100																			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4531	4531	4531
5°	4517	4518	4613
10°	4425	4464	4495
15°	4460	4436	4461
20°	4385	4385	4431
25°	4250	4343	4391
30°	4191	4265	4378
35°	4093	4200	4294
40°	3933	4123	4141
45°	3814	3950	3956
50°	3689	3856	3782
55°	3515	3583	3558
60°	3287	3320	3260
65°	2931	3005	2910
70°	2515	2523	2453
75°	1991	1987	1910
80°	1334	1297	1246
85°	726	719	670

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4052 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.4	3.7
10°-20°	448.9	10.6
20°-30°	672.6	15.8
30°-40°	797.1	18.8
40°-50°	798.6	18.8
50°-60°	677.9	16.0
60°-70°	457.0	10.8
70°-80°	200.8	4.7
80°-90°	32.6	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°	1279.9	30.2
0°-40°	2077.0	48.9
0°-60°	3553.5	83.7
0°-90°	4244.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4244.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1684	1684	1684	1684	1684	
5°	1672	1668	1673	1668	1708	158
15°	1601	1582	1592	1600	1601	446
25°	1431	1439	1463	1482	1479	662
35°	1246	1250	1278	1308	1307	774
45°	1002	1021	1038	1065	1040	775
55°	749	744	764	759	758	666
65°	460	454	472	454	457	458
75°	192	188	191	178	184	205
85°	24	23	23	23	22	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1683.9	1683.9	1683.9	1683.9	1683.9
2.5°	1698.5	1685.7	1673.7	1687.6	1696.1
5°	1672.0	1668.0	1672.6	1667.6	1707.8
7.5°	1637.6	1652.6	1661.3	1655.9	1658.3
10°	1619.3	1614.1	1633.5	1647.0	1645.0
12.5°	1599.8	1607.6	1608.7	1623.3	1624.6
15°	1600.9	1582.4	1592.2	1600.4	1601.1
17.5°	1538.7	1558.7	1565.4	1584.3	1560.9
20°	1531.1	1516.5	1531.1	1550.4	1547.4
22.5°	1484.3	1468.0	1499.3	1516.5	1515.4
25°	1431.3	1439.1	1462.6	1481.7	1478.7
27.5°	1384.7	1393.9	1427.4	1453.7	1436.7
30°	1348.9	1344.3	1372.6	1396.0	1409.1
32.5°	1284.7	1301.3	1334.3	1357.6	1345.2
35°	1245.8	1249.5	1278.4	1308.0	1307.1
37.5°	1177.8	1194.9	1235.6	1243.9	1236.2
40°	1119.7	1136.9	1173.6	1182.5	1178.8
42.5°	1076.9	1079.9	1111.4	1121.7	1105.4
45°	1002.3	1021.0	1038.0	1064.7	1039.5
47.5°	938.8	947.5	984.0	991.2	978.0
50°	881.2	884.2	921.0	912.1	903.4
52.5°	808.8	821.6	842.3	840.5	830.3
55°	749.2	744.2	763.8	758.6	758.4
57.5°	677.7	686.4	702.5	694.2	681.0
60°	610.7	610.9	616.8	607.5	605.7
62.5°	536.2	538.8	540.1	528.5	547.2
65°	460.3	454.2	472.0	454.0	457.0
67.5°	390.5	393.5	391.8	380.5	384.8
70°	319.6	323.5	320.7	307.9	311.8
72.5°	254.8	250.0	253.1	237.0	244.4
75°	191.5	187.6	191.1	177.6	183.7
77.5°	130.5	133.5	131.3	124.1	128.3
80°	86.1	83.7	83.7	79.6	80.4
82.5°	50.2	47.8	47.2	45.9	47.8
85°	23.5	22.8	23.3	22.6	21.7
87.5°	8.5	8.7	8.7	8.3	7.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)