

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: P590611

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590611
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-50-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4459.0 lumens
Efficiency: N/A
Efficacy: 127.0 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

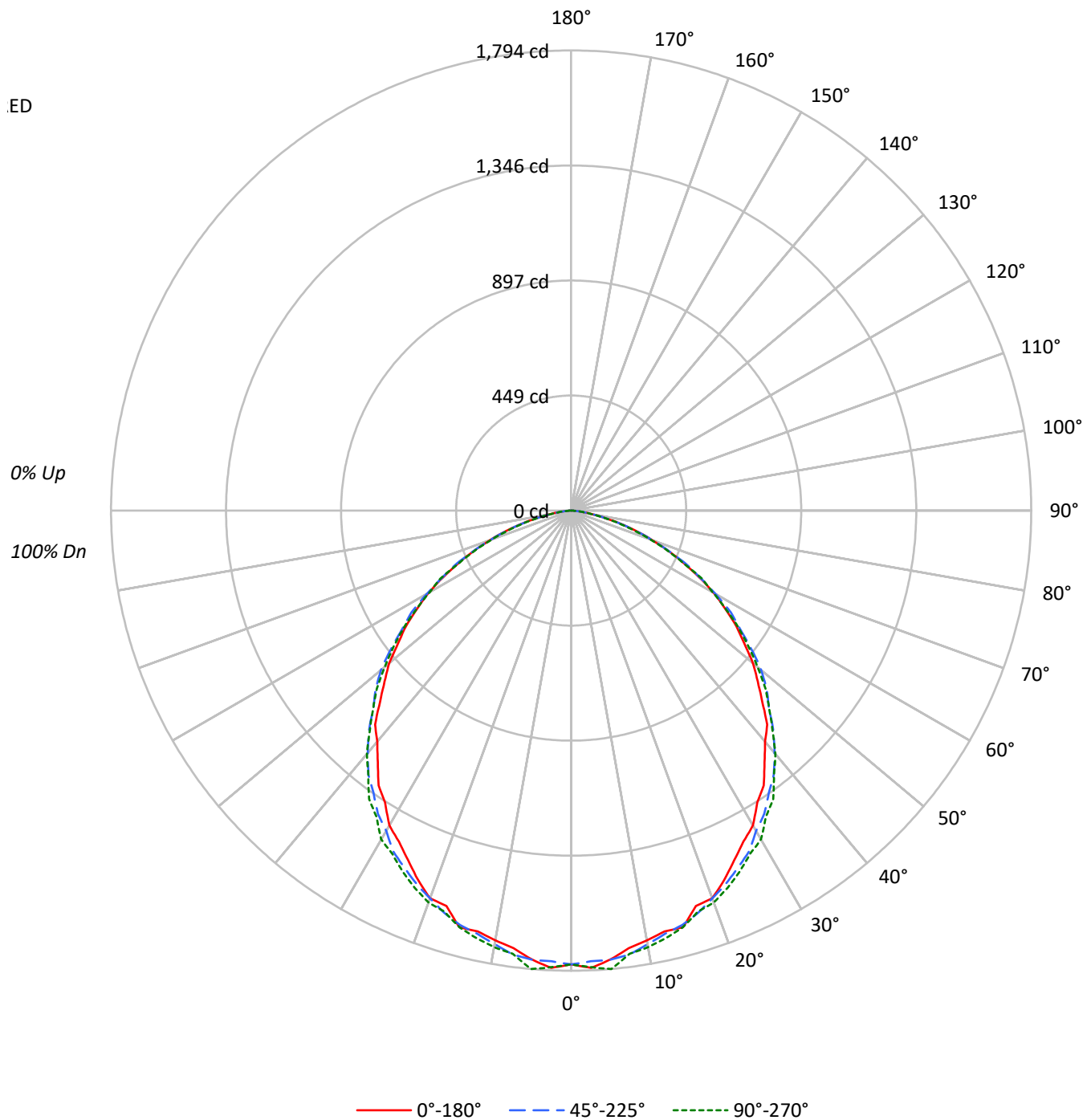
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4761	4761	4761
5°	4745	4747	4847
10°	4649	4690	4723
15°	4686	4660	4686
20°	4607	4607	4656
25°	4465	4563	4613
30°	4404	4481	4600
35°	4300	4413	4511
40°	4132	4332	4351
45°	4008	4150	4156
50°	3876	4051	3973
55°	3693	3765	3738
60°	3454	3488	3425
65°	3079	3158	3058
70°	2642	2651	2578
75°	2093	2088	2007
80°	1402	1362	1309
85°	763	753	704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4257 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.4	3.7
10°-20°	471.7	10.6
20°-30°	706.6	15.8
30°-40°	837.5	18.8
40°-50°	839.1	18.8
50°-60°	712.2	16.0
60°-70°	480.2	10.8
70°-80°	211.0	4.7
80°-90°	34.3	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°	1344.7	30.2
0°-40°	2182.2	48.9
0°-60°	3733.5	83.7
0°-90°	4459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4459.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1769	1769	1769	1769	1769	
5°	1757	1752	1757	1752	1794	166
15°	1682	1662	1673	1682	1682	469
25°	1504	1512	1537	1557	1554	695
35°	1309	1313	1343	1374	1373	813
45°	1053	1073	1090	1119	1092	815
55°	787	782	802	797	797	700
65°	484	477	496	477	480	481
75°	201	197	201	187	193	216
85°	25	24	24	24	23	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1769.2	1769.2	1769.2	1769.2	1769.2
2.5°	1784.5	1771.0	1758.5	1773.1	1782.0
5°	1756.7	1752.5	1757.3	1752.1	1794.3
7.5°	1720.6	1736.3	1745.5	1739.8	1742.3
10°	1701.4	1695.9	1716.2	1730.4	1728.3
12.5°	1680.8	1689.0	1690.2	1705.5	1706.9
15°	1682.0	1662.5	1672.8	1681.5	1682.2
17.5°	1616.6	1637.6	1644.7	1664.6	1639.9
20°	1608.6	1593.3	1608.6	1629.0	1625.8
22.5°	1559.5	1542.4	1575.3	1593.3	1592.2
25°	1503.8	1512.0	1536.7	1556.8	1553.6
27.5°	1454.9	1464.5	1499.7	1527.3	1509.5
30°	1417.2	1412.4	1442.1	1466.8	1480.5
32.5°	1349.8	1367.2	1401.9	1426.3	1413.3
35°	1308.9	1312.8	1343.2	1374.3	1373.3
37.5°	1237.4	1255.5	1298.2	1306.9	1298.9
40°	1176.4	1194.5	1233.1	1242.5	1238.6
42.5°	1131.4	1134.6	1167.8	1178.5	1161.4
45°	1053.1	1072.7	1090.5	1118.6	1092.1
47.5°	986.4	995.5	1033.9	1041.4	1027.5
50°	925.8	929.0	967.6	958.3	949.1
52.5°	849.8	863.3	885.0	883.1	872.4
55°	787.2	781.9	802.5	797.0	796.8
57.5°	712.0	721.2	738.1	729.4	715.5
60°	641.7	641.9	648.1	638.2	636.4
62.5°	563.3	566.1	567.4	555.3	575.0
65°	483.6	477.2	495.9	477.0	480.2
67.5°	410.3	413.5	411.6	399.8	404.3
70°	335.8	339.9	336.9	323.5	327.6
72.5°	267.7	262.7	265.9	249.0	256.8
75°	201.3	197.1	200.8	186.6	193.0
77.5°	137.1	140.3	138.0	130.4	134.8
80°	90.5	87.9	87.9	83.6	84.5
82.5°	52.8	50.3	49.6	48.2	50.3
85°	24.7	24.0	24.4	23.8	22.8
87.5°	8.9	9.1	9.1	8.7	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)