

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: P590606

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590606
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4409.0 lumens
Efficiency: N/A
Efficacy: 125.6 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

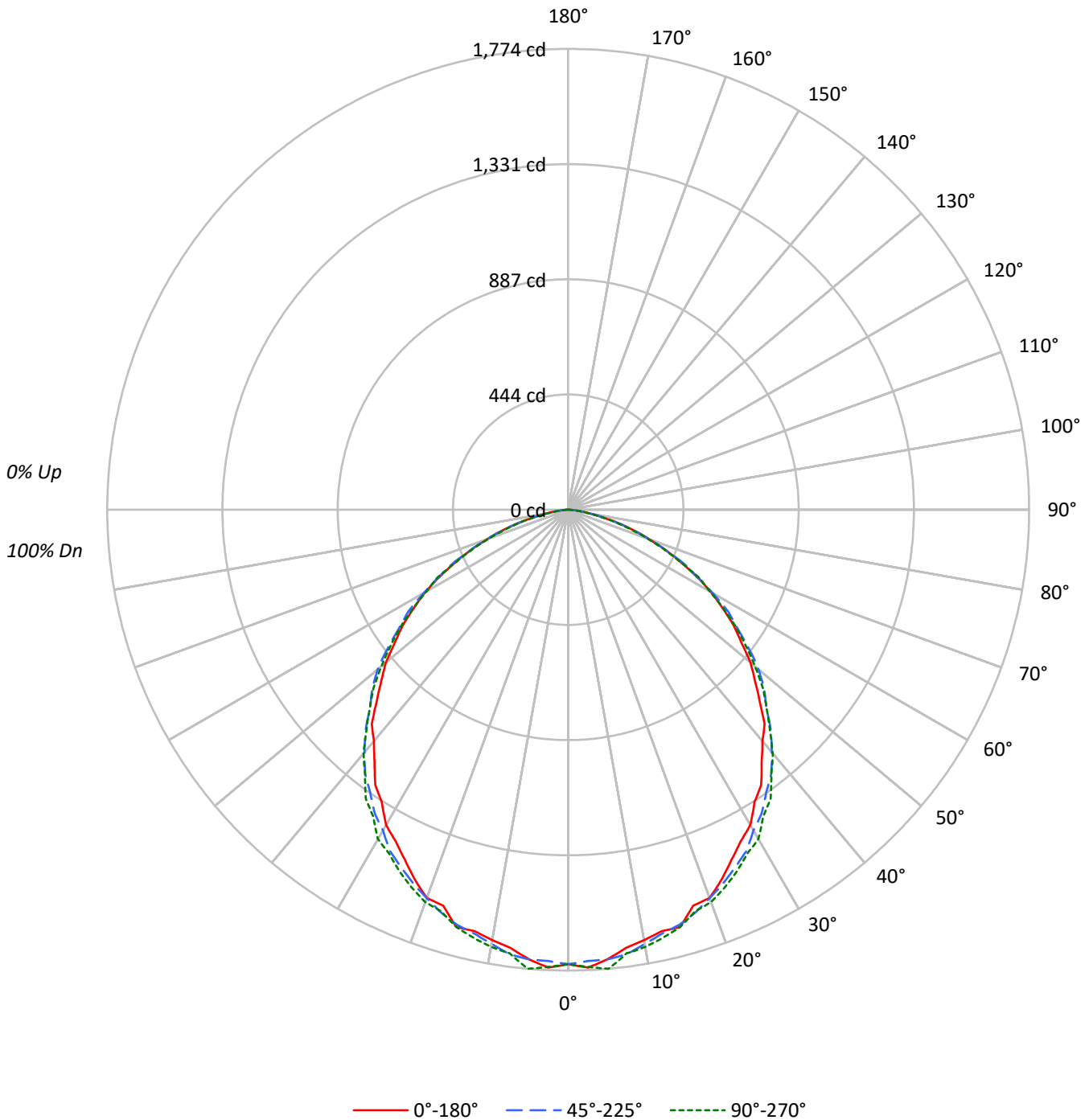
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4708	4708	4708
5°	4692	4694	4793
10°	4597	4637	4670
15°	4633	4608	4634
20°	4555	4555	4603
25°	4415	4511	4561
30°	4354	4431	4549
35°	4252	4363	4461
40°	4086	4283	4302
45°	3963	4104	4110
50°	3833	4006	3929
55°	3652	3723	3696
60°	3415	3449	3387
65°	3045	3123	3023
70°	2612	2622	2548
75°	2069	2064	1985
80°	1385	1348	1296
85°	753	747	698

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4209 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.6	3.7
10°-20°	466.4	10.6
20°-30°	698.7	15.8
30°-40°	828.1	18.8
40°-50°	829.7	18.8
50°-60°	704.2	16.0
60°-70°	474.8	10.8
70°-80°	208.6	4.7
80°-90°	33.9	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°	1329.6	30.2
0°-40°	2157.8	48.9
0°-60°	3691.7	83.7
0°-90°	4409.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4409.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1749	1749	1749	1749	1749	
5°	1737	1733	1738	1732	1774	164
15°	1663	1644	1654	1663	1663	463
25°	1487	1495	1519	1539	1536	687
35°	1294	1298	1328	1359	1358	804
45°	1041	1061	1078	1106	1080	805
55°	778	773	794	788	788	692
65°	478	472	490	472	475	476
75°	199	195	198	184	191	213
85°	24	24	24	24	23	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1749.4	1749.4	1749.4	1749.4	1749.4
2.5°	1764.5	1751.2	1738.8	1753.2	1762.0
5°	1737.0	1732.9	1737.6	1732.4	1774.2
7.5°	1701.3	1716.9	1725.9	1720.2	1722.7
10°	1682.3	1676.9	1697.0	1711.0	1708.9
12.5°	1662.0	1670.1	1671.2	1686.4	1687.7
15°	1663.1	1643.9	1654.1	1662.6	1663.3
17.5°	1598.5	1619.3	1626.3	1645.9	1621.5
20°	1590.6	1575.5	1590.6	1610.7	1607.5
22.5°	1542.0	1525.1	1557.6	1575.5	1574.3
25°	1486.9	1495.0	1519.4	1539.3	1536.2
27.5°	1438.6	1448.1	1482.9	1510.2	1492.6
30°	1401.3	1396.6	1425.9	1450.3	1463.9
32.5°	1334.7	1351.8	1386.2	1410.3	1397.5
35°	1294.2	1298.1	1328.1	1358.8	1357.9
37.5°	1223.5	1241.4	1283.6	1292.2	1284.3
40°	1163.2	1181.1	1219.3	1228.5	1224.7
42.5°	1118.7	1121.9	1154.7	1165.3	1148.3
45°	1041.3	1060.7	1078.3	1106.1	1079.9
47.5°	975.3	984.4	1022.3	1029.8	1016.0
50°	915.5	918.6	956.8	947.5	938.5
52.5°	840.2	853.6	875.0	873.2	862.6
55°	778.4	773.2	793.5	788.1	787.8
57.5°	704.0	713.1	729.8	721.2	707.4
60°	634.5	634.7	640.8	631.1	629.3
62.5°	557.0	559.7	561.1	549.1	568.5
65°	478.2	471.8	490.4	471.6	474.8
67.5°	405.7	408.8	407.0	395.3	399.8
70°	332.0	336.1	333.2	319.8	323.9
72.5°	264.7	259.8	262.9	246.2	253.9
75°	199.0	194.9	198.5	184.5	190.9
77.5°	135.5	138.7	136.4	129.0	133.3
80°	89.4	87.0	87.0	82.7	83.6
82.5°	52.2	49.7	49.0	47.7	49.7
85°	24.4	23.7	24.2	23.5	22.6
87.5°	8.8	9.0	9.0	8.6	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)