

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: P590187

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590187
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-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4457.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

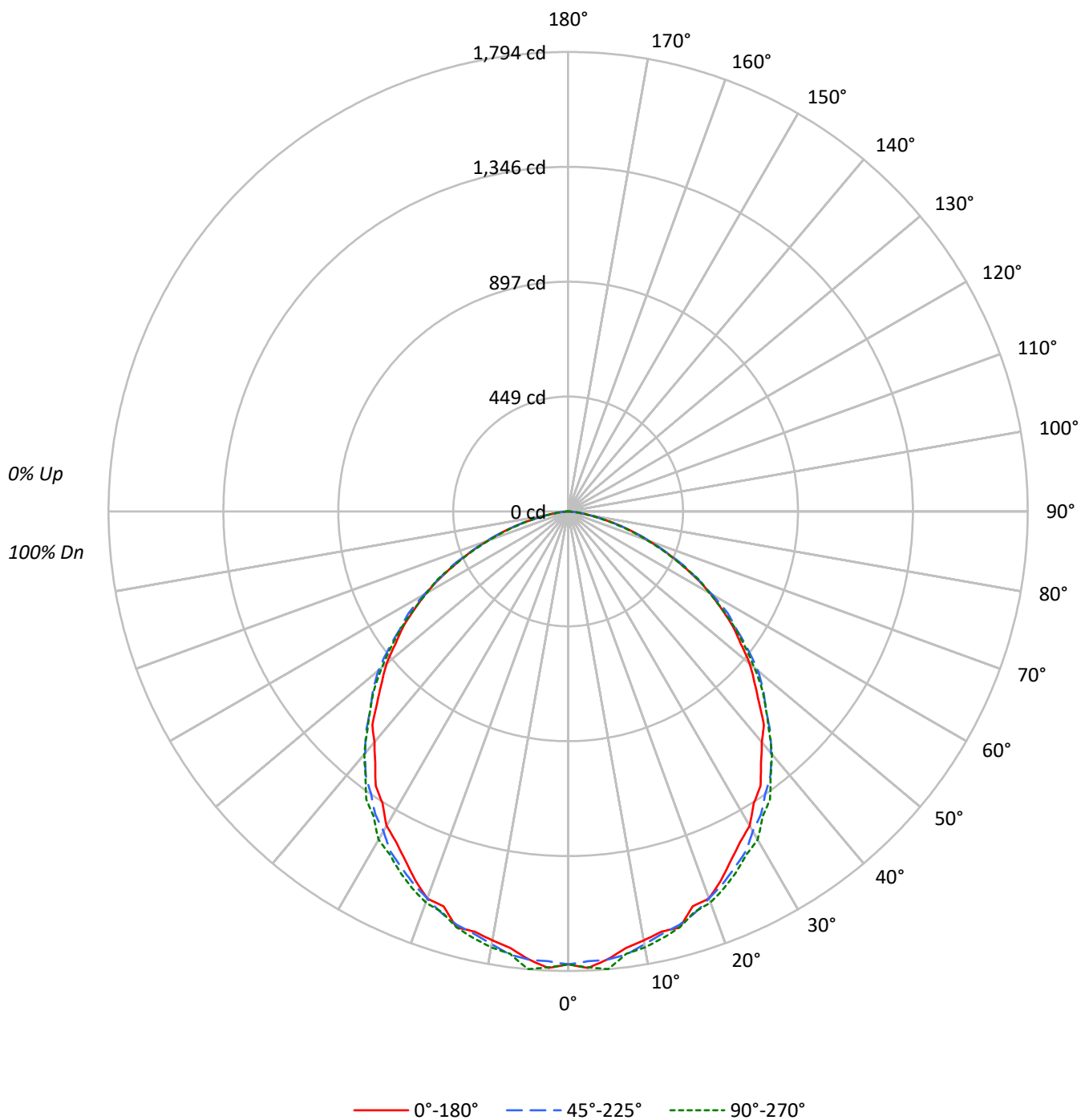
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	4759	4759	4759
5°	4743	4745	4845
10°	4647	4688	4721
15°	4684	4658	4684
20°	4605	4605	4653
25°	4463	4561	4611
30°	4402	4479	4598
35°	4298	4411	4509
40°	4131	4330	4349
45°	4006	4149	4155
50°	3874	4049	3972
55°	3691	3763	3736
60°	3452	3486	3423
65°	3078	3156	3056
70°	2640	2650	2576
75°	2092	2087	2006
80°	1401	1362	1309
85°	763	753	704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 4255 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.3	3.7
10°-20°	471.4	10.6
20°-30°	706.3	15.8
30°-40°	837.1	18.8
40°-50°	838.7	18.8
50°-60°	711.9	16.0
60°-70°	480.0	10.8
70°-80°	210.9	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°	1344.1	30.2
0°-40°	2181.3	48.9
0°-60°	3731.8	83.7
0°-90°	4457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4457.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1768	1768	1768	1768	1768	
5°	1756	1752	1757	1751	1794	166
15°	1681	1662	1672	1681	1681	468
25°	1503	1511	1536	1556	1553	695
35°	1308	1312	1343	1374	1373	812
45°	1053	1072	1090	1118	1092	814
55°	787	782	802	797	796	700
65°	483	477	496	477	480	481
75°	201	197	201	186	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°	1768.4	1768.4	1768.4	1768.4	1768.4
2.5°	1783.7	1770.3	1757.7	1772.3	1781.2
5°	1755.9	1751.8	1756.6	1751.3	1793.5
7.5°	1719.8	1735.5	1744.7	1739.0	1741.5
10°	1700.6	1695.1	1715.5	1729.6	1727.6
12.5°	1680.1	1688.3	1689.4	1704.7	1706.1
15°	1681.2	1661.8	1672.1	1680.7	1681.4
17.5°	1615.9	1636.9	1644.0	1663.8	1639.2
20°	1607.9	1592.6	1607.9	1628.2	1625.0
22.5°	1558.8	1541.7	1574.6	1592.6	1591.5
25°	1503.1	1511.3	1536.0	1556.1	1552.9
27.5°	1454.2	1463.8	1499.0	1526.6	1508.8
30°	1416.6	1411.8	1441.5	1466.1	1479.8
32.5°	1349.2	1366.6	1401.3	1425.7	1412.7
35°	1308.3	1312.2	1342.6	1373.6	1372.7
37.5°	1236.9	1254.9	1297.6	1306.3	1298.3
40°	1175.9	1193.9	1232.5	1241.9	1238.0
42.5°	1130.9	1134.1	1167.2	1178.0	1160.8
45°	1052.6	1072.2	1090.1	1118.1	1091.7
47.5°	985.9	995.1	1033.4	1041.0	1027.0
50°	925.4	928.6	967.2	957.8	948.7
52.5°	849.4	862.9	884.6	882.7	872.0
55°	786.8	781.6	802.1	796.6	796.4
57.5°	711.7	720.8	737.7	729.1	715.1
60°	641.4	641.6	647.8	638.0	636.1
62.5°	563.1	565.8	567.2	555.1	574.7
65°	483.4	477.0	495.7	476.8	480.0
67.5°	410.1	413.3	411.5	399.6	404.1
70°	335.6	339.8	336.8	323.3	327.4
72.5°	267.6	262.6	265.8	248.9	256.6
75°	201.2	197.0	200.7	186.5	192.9
77.5°	137.0	140.2	137.9	130.4	134.7
80°	90.4	87.9	87.9	83.6	84.5
82.5°	52.7	50.2	49.5	48.2	50.2
85°	24.7	24.0	24.4	23.7	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)