

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: P560894

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-80-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560894
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1HI-50-UNV-80-97-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3479.0 lumens
Efficiency: N/A
Efficacy: 80.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

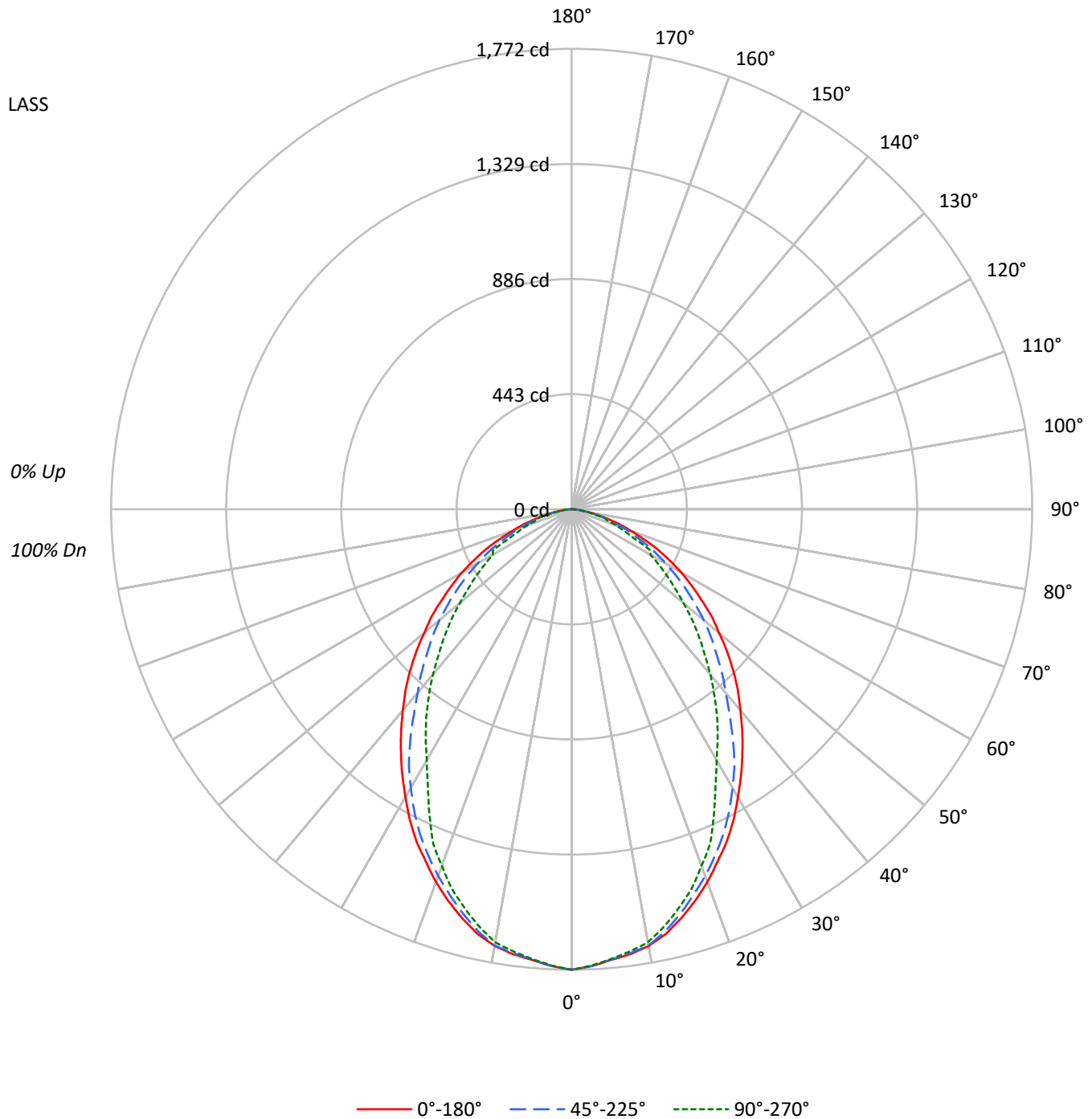
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4769	4769	4769
5°	4704	4699	4693
10°	4663	4658	4624
15°	4537	4492	4429
20°	4371	4300	4183
25°	4191	4100	3844
30°	3972	3845	3463
35°	3762	3553	3204
40°	3548	3238	2915
45°	3345	2994	2635
50°	3096	2779	2350
55°	2864	2518	2105
60°	2624	2249	1885
65°	2309	1970	1670
70°	1902	1725	1419
75°	1513	1320	1385
80°	1017	953	890
85°	633	760	886

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3345 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.0	4.7
10°-20°	452.7	13.0
20°-30°	626.8	18.0
30°-40°	668.3	19.2
40°-50°	609.7	17.5
50°-60°	477.7	13.7
60°-70°	311.3	8.9
70°-80°	137.9	4.0
80°-90°	29.6	0.9
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°	1244.5	35.8
0°-40°	1912.8	55.0
0°-60°	3000.1	86.2
0°-90°	3479.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3479.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1772	1772	1772	1772	1772	
5°	1741	1739	1739	1737	1737	165
15°	1629	1629	1612	1596	1590	458
25°	1412	1403	1381	1332	1295	648
35°	1145	1137	1082	1000	975	716
45°	879	860	787	721	692	677
55°	610	592	537	473	449	548
65°	363	342	309	316	262	357
75°	146	135	127	121	133	156
85°	20	22	25	27	29	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1772.2	1772.2	1772.2	1772.2	1772.2
2.5°	1759.9	1759.9	1759.9	1757.8	1757.8
5°	1741.4	1739.4	1739.4	1737.3	1737.3
7.5°	1727.1	1725.0	1723.0	1720.9	1716.8
10°	1706.6	1706.6	1704.5	1694.3	1692.3
12.5°	1673.8	1671.8	1663.6	1649.2	1645.1
15°	1628.7	1628.7	1612.4	1596.0	1589.8
17.5°	1579.6	1577.5	1557.0	1540.6	1532.5
20°	1526.3	1522.2	1501.7	1475.1	1460.7
22.5°	1466.9	1466.9	1442.3	1407.5	1393.1
25°	1411.6	1403.4	1380.8	1331.7	1294.8
27.5°	1348.1	1335.8	1311.2	1241.5	1198.5
30°	1278.4	1272.3	1237.4	1147.3	1114.5
32.5°	1212.9	1202.6	1165.7	1071.5	1044.9
35°	1145.2	1137.0	1081.7	999.8	975.2
37.5°	1077.6	1067.4	997.7	932.2	901.4
40°	1010.0	997.7	921.9	862.5	829.7
42.5°	946.5	930.1	856.4	792.9	756.0
45°	878.9	860.5	786.7	721.2	692.5
47.5°	811.3	794.9	727.3	659.7	626.9
50°	739.6	725.3	663.8	596.2	561.4
52.5°	680.2	657.6	598.2	530.6	501.9
55°	610.5	592.1	536.8	473.3	448.7
57.5°	547.0	528.6	477.4	417.9	397.5
60°	487.6	461.0	417.9	366.7	350.3
62.5°	422.0	401.6	364.7	321.7	342.1
65°	362.6	342.1	309.4	315.5	262.2
67.5°	297.1	286.8	258.1	229.5	221.3
70°	241.8	229.5	219.2	188.5	180.3
72.5°	192.6	180.3	165.9	149.6	143.4
75°	145.5	135.2	127.0	120.9	133.2
77.5°	100.4	96.3	90.1	84.0	81.9
80°	65.6	63.5	61.5	59.4	57.4
82.5°	38.9	38.9	38.9	38.9	38.9
85°	20.5	22.5	24.6	26.6	28.7
87.5°	12.3	12.3	14.3	16.4	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)