

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: P560892

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560892
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-80-96-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 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: 3609.0 lumens
Efficiency: N/A
Efficacy: 83.5 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

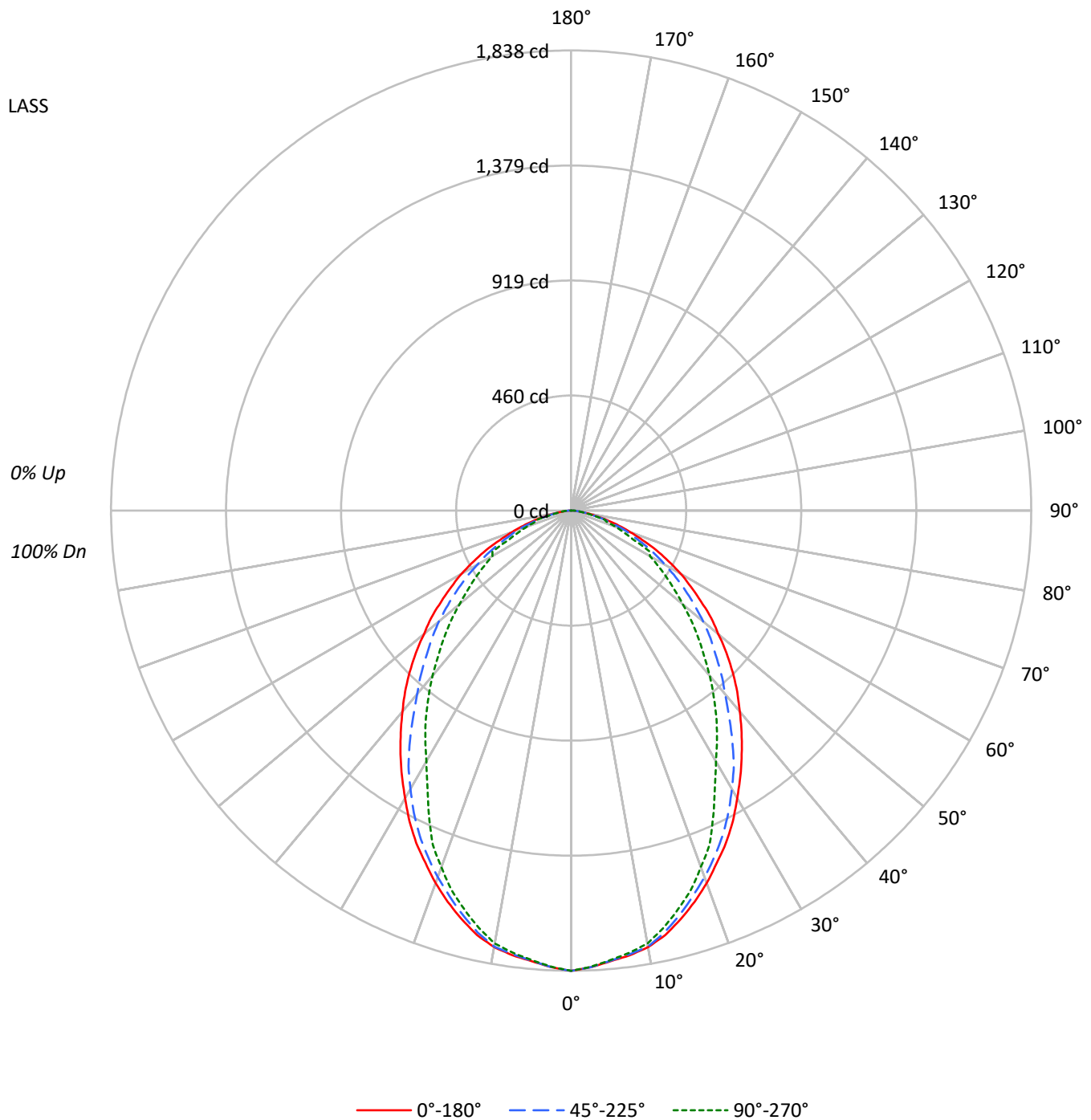
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4947	4947	4947
5°	4880	4874	4868
10°	4838	4832	4797
15°	4707	4660	4595
20°	4534	4461	4339
25°	4348	4253	3988
30°	4121	3989	3593
35°	3903	3687	3323
40°	3681	3360	3023
45°	3470	3106	2734
50°	3212	2883	2438
55°	2971	2612	2183
60°	2722	2334	1956
65°	2395	2043	1732
70°	1973	1789	1471
75°	1569	1370	1436
80°	1054	989	922
85°	658	787	920

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3470 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.1	4.7
10°-20°	469.6	13.0
20°-30°	650.2	18.0
30°-40°	693.3	19.2
40°-50°	632.5	17.5
50°-60°	495.5	13.7
60°-70°	322.9	8.9
70°-80°	143.1	4.0
80°-90°	30.7	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°	1291.0	35.8
0°-40°	1984.3	55.0
0°-60°	3112.2	86.2
0°-90°	3609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1806	1804	1804	1802	1802	171
15°	1690	1690	1673	1656	1649	475
25°	1464	1456	1432	1381	1343	672
35°	1188	1180	1122	1037	1012	743
45°	912	893	816	748	718	702
55°	633	614	557	491	465	568
65°	376	355	321	327	272	371
75°	151	140	132	125	138	162
85°	21	23	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1838.4	1838.4	1838.4	1838.4	1838.4
2.5°	1825.6	1825.6	1825.6	1823.5	1823.5
5°	1806.5	1804.4	1804.4	1802.2	1802.2
7.5°	1791.6	1789.5	1787.4	1785.2	1781.0
10°	1770.4	1770.4	1768.2	1757.6	1755.5
12.5°	1736.4	1734.2	1725.7	1710.9	1706.6
15°	1689.6	1689.6	1672.6	1655.6	1649.2
17.5°	1638.6	1636.5	1615.2	1598.2	1589.7
20°	1583.3	1579.1	1557.8	1530.2	1515.3
22.5°	1521.7	1521.7	1496.2	1460.1	1445.2
25°	1464.3	1455.8	1432.4	1381.4	1343.2
27.5°	1398.4	1385.7	1360.2	1287.9	1243.3
30°	1326.2	1319.8	1283.7	1190.2	1156.2
32.5°	1258.2	1247.5	1209.3	1111.5	1083.9
35°	1188.0	1179.5	1122.2	1037.1	1011.6
37.5°	1117.9	1107.3	1035.0	967.0	935.1
40°	1047.8	1035.0	956.4	894.7	860.7
42.5°	981.9	964.9	888.4	822.5	784.2
45°	911.7	892.6	816.1	748.1	718.3
47.5°	841.6	824.6	754.5	684.3	650.3
50°	767.2	752.4	688.6	618.5	582.3
52.5°	705.6	682.2	620.6	550.5	520.7
55°	633.3	614.2	556.8	490.9	465.4
57.5°	567.5	548.3	495.2	433.6	412.3
60°	505.8	478.2	433.6	380.4	363.4
62.5°	437.8	416.6	378.3	333.7	354.9
65°	376.2	354.9	320.9	327.3	272.0
67.5°	308.2	297.5	267.8	238.0	229.5
70°	250.8	238.0	227.4	195.5	187.0
72.5°	199.8	187.0	172.1	155.1	148.8
75°	150.9	140.3	131.8	125.4	138.1
77.5°	104.1	99.9	93.5	87.1	85.0
80°	68.0	65.9	63.8	61.6	59.5
82.5°	40.4	40.4	40.4	40.4	40.4
85°	21.3	23.4	25.5	27.6	29.8
87.5°	12.8	12.8	14.9	17.0	19.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)