

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: P560908

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560908
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-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3428.0 lumens
Efficiency: N/A
Efficacy: 79.4 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

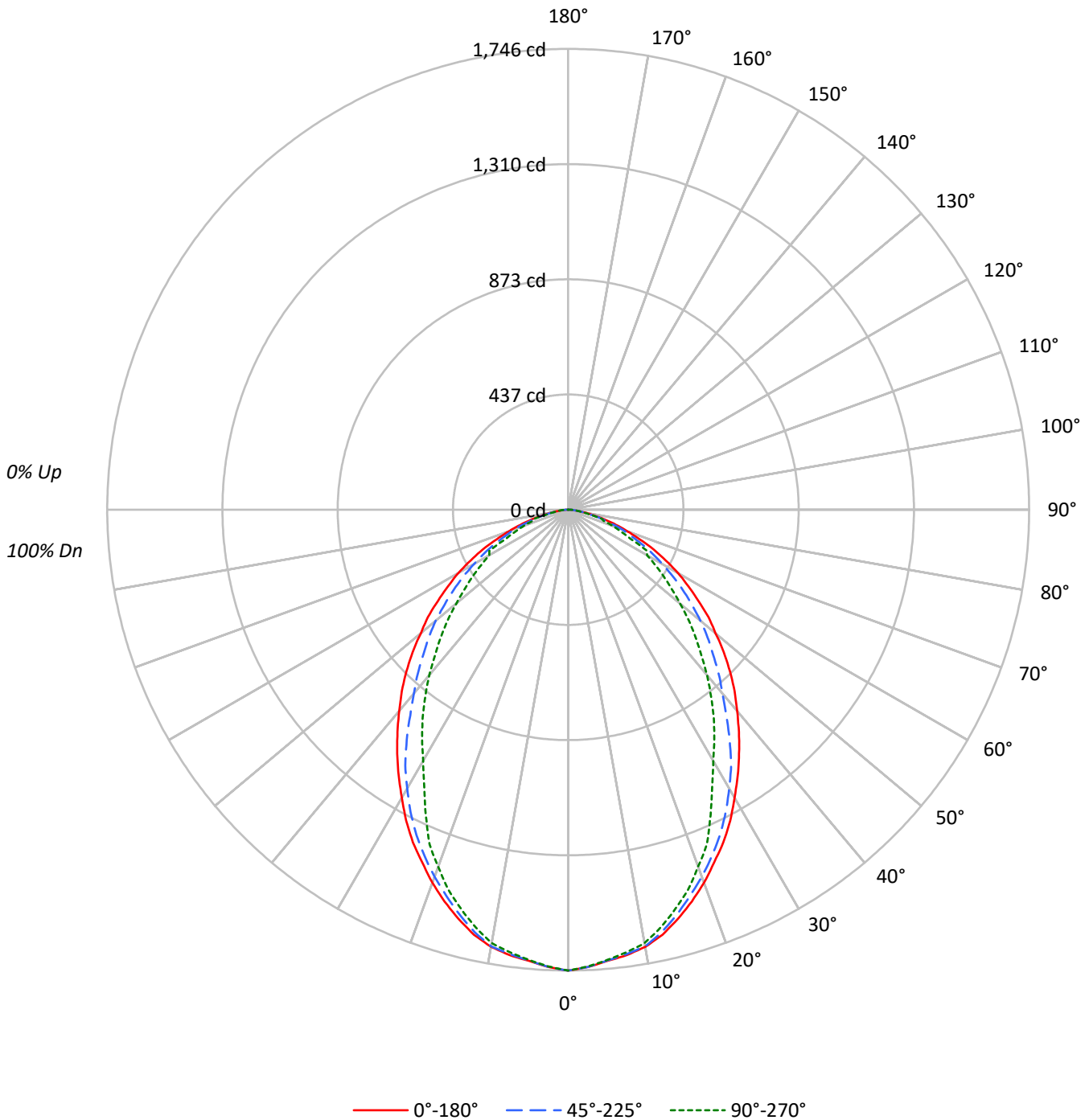
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4699	4699	4699
5°	4635	4630	4624
10°	4595	4589	4556
15°	4471	4426	4364
20°	4307	4237	4122
25°	4130	4040	3788
30°	3914	3789	3412
35°	3707	3502	3157
40°	3496	3191	2872
45°	3296	2950	2597
50°	3051	2738	2316
55°	2822	2481	2074
60°	2586	2216	1858
65°	2275	1941	1645
70°	1874	1699	1397
75°	1490	1302	1364
80°	1001	939	876
85°	624	747	874

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3296 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	4.7
10°-20°	446.1	13.0
20°-30°	617.6	18.0
30°-40°	658.5	19.2
40°-50°	600.8	17.5
50°-60°	470.7	13.7
60°-70°	306.7	8.9
70°-80°	135.9	4.0
80°-90°	29.2	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°	1226.2	35.8
0°-40°	1884.8	55.0
0°-60°	2956.2	86.2
0°-90°	3428.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3428.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1746	1746	1746	1746	1746	
5°	1716	1714	1714	1712	1712	163
15°	1605	1605	1589	1573	1566	451
25°	1391	1383	1361	1312	1276	639
35°	1128	1120	1066	985	961	705
45°	866	848	775	711	682	667
55°	602	583	529	466	442	540
65°	357	337	305	311	258	352
75°	143	133	125	119	131	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1746.2	1746.2	1746.2	1746.2	1746.2
2.5°	1734.1	1734.1	1734.1	1732.0	1732.0
5°	1715.9	1713.9	1713.9	1711.9	1711.9
7.5°	1701.8	1699.7	1697.7	1695.7	1691.7
10°	1681.6	1681.6	1679.6	1669.5	1667.4
12.5°	1649.3	1647.3	1639.2	1625.1	1621.0
15°	1604.9	1604.9	1588.7	1572.6	1566.5
17.5°	1556.4	1554.4	1534.2	1518.1	1510.0
20°	1503.9	1499.9	1479.7	1453.5	1439.3
22.5°	1445.4	1445.4	1421.2	1386.8	1372.7
25°	1390.9	1382.8	1360.6	1312.2	1275.8
27.5°	1328.3	1316.2	1292.0	1223.3	1180.9
30°	1259.7	1253.6	1219.3	1130.5	1098.2
32.5°	1195.1	1185.0	1148.6	1055.8	1029.5
35°	1128.5	1120.4	1065.9	985.1	960.9
37.5°	1061.8	1051.7	983.1	918.5	888.2
40°	995.2	983.1	908.4	849.9	817.6
42.5°	932.6	916.5	843.8	781.2	744.9
45°	866.0	847.9	775.2	710.6	682.3
47.5°	799.4	783.3	716.6	650.0	617.7
50°	728.8	714.6	654.1	587.4	553.1
52.5°	670.2	648.0	589.5	522.8	494.6
55°	601.6	583.4	528.9	466.3	442.1
57.5°	539.0	520.8	470.4	411.8	391.6
60°	480.5	454.2	411.8	361.3	345.2
62.5°	415.9	395.7	359.3	316.9	337.1
65°	357.3	337.1	304.8	310.9	258.4
67.5°	292.7	282.6	254.4	226.1	218.0
70°	238.2	226.1	216.0	185.7	177.6
72.5°	189.8	177.6	163.5	147.4	141.3
75°	143.3	133.2	125.2	119.1	131.2
77.5°	98.9	94.9	88.8	82.8	80.7
80°	64.6	62.6	60.6	58.5	56.5
82.5°	38.4	38.4	38.4	38.4	38.4
85°	20.2	22.2	24.2	26.2	28.3
87.5°	12.1	12.1	14.1	16.1	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)