

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: P560828

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560828
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3427.0 lumens
Efficiency: N/A
Efficacy: 79.3 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

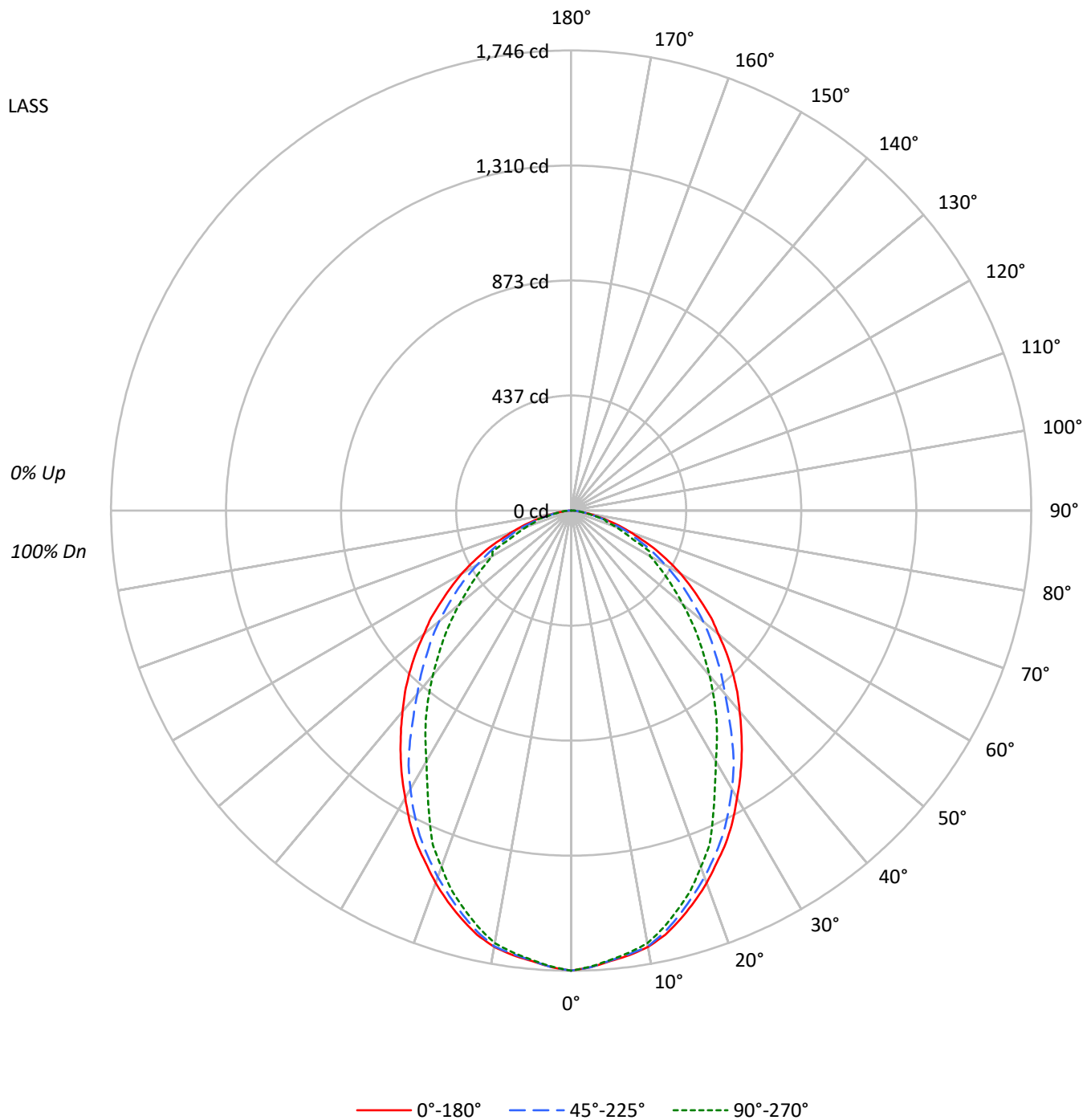
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4698	4698	4698
5°	4634	4628	4623
10°	4594	4588	4555
15°	4470	4425	4363
20°	4306	4236	4121
25°	4129	4039	3787
30°	3913	3787	3411
35°	3706	3501	3156
40°	3495	3190	2871
45°	3295	2949	2596
50°	3050	2737	2315
55°	2822	2480	2074
60°	2585	2216	1857
65°	2274	1940	1645
70°	1873	1699	1397
75°	1490	1301	1364
80°	1001	938	876
85°	624	747	874

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3295 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	4.7
10°-20°	446.0	13.0
20°-30°	617.4	18.0
30°-40°	658.3	19.2
40°-50°	600.6	17.5
50°-60°	470.5	13.7
60°-70°	306.6	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°	1225.9	35.8
0°-40°	1884.2	55.0
0°-60°	2955.3	86.2
0°-90°	3427.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3427.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1746	1746	1746	1746	1746	
5°	1715	1713	1713	1711	1711	163
15°	1604	1604	1588	1572	1566	451
25°	1390	1382	1360	1312	1275	638
35°	1128	1120	1066	985	961	705
45°	866	848	775	710	682	667
55°	601	583	529	466	442	539
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°	1745.7	1745.7	1745.7	1745.7	1745.7
2.5°	1733.6	1733.6	1733.6	1731.5	1731.5
5°	1715.4	1713.4	1713.4	1711.4	1711.4
7.5°	1701.3	1699.3	1697.2	1695.2	1691.2
10°	1681.1	1681.1	1679.1	1669.0	1667.0
12.5°	1648.8	1646.8	1638.7	1624.6	1620.5
15°	1604.4	1604.4	1588.3	1572.1	1566.1
17.5°	1556.0	1553.9	1533.8	1517.6	1509.5
20°	1503.5	1499.5	1479.3	1453.0	1438.9
22.5°	1445.0	1445.0	1420.8	1386.4	1372.3
25°	1390.5	1382.4	1360.2	1311.8	1275.4
27.5°	1327.9	1315.8	1291.6	1223.0	1180.6
30°	1259.3	1253.2	1218.9	1130.1	1097.9
32.5°	1194.7	1184.6	1148.3	1055.5	1029.2
35°	1128.1	1120.1	1065.6	984.8	960.6
37.5°	1061.5	1051.4	982.8	918.2	888.0
40°	994.9	982.8	908.2	849.6	817.3
42.5°	932.4	916.2	843.6	781.0	744.7
45°	865.8	847.6	775.0	710.4	682.1
47.5°	799.2	783.0	716.4	649.8	617.5
50°	728.5	714.4	653.9	587.3	553.0
52.5°	670.0	647.8	589.3	522.7	494.4
55°	601.4	583.2	528.7	466.2	442.0
57.5°	538.8	520.7	470.2	411.7	391.5
60°	480.3	454.1	411.7	361.2	345.1
62.5°	415.7	395.6	359.2	316.8	337.0
65°	357.2	337.0	304.7	310.8	258.3
67.5°	292.6	282.5	254.3	226.0	218.0
70°	238.1	226.0	215.9	185.7	177.6
72.5°	189.7	177.6	163.5	147.3	141.3
75°	143.3	133.2	125.1	119.1	131.2
77.5°	98.9	94.9	88.8	82.7	80.7
80°	64.6	62.6	60.5	58.5	56.5
82.5°	38.3	38.3	38.3	38.3	38.3
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)