

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: P563452

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563452
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-24-4-LD4-3STD-35-UNV-80-96-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9710.0 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

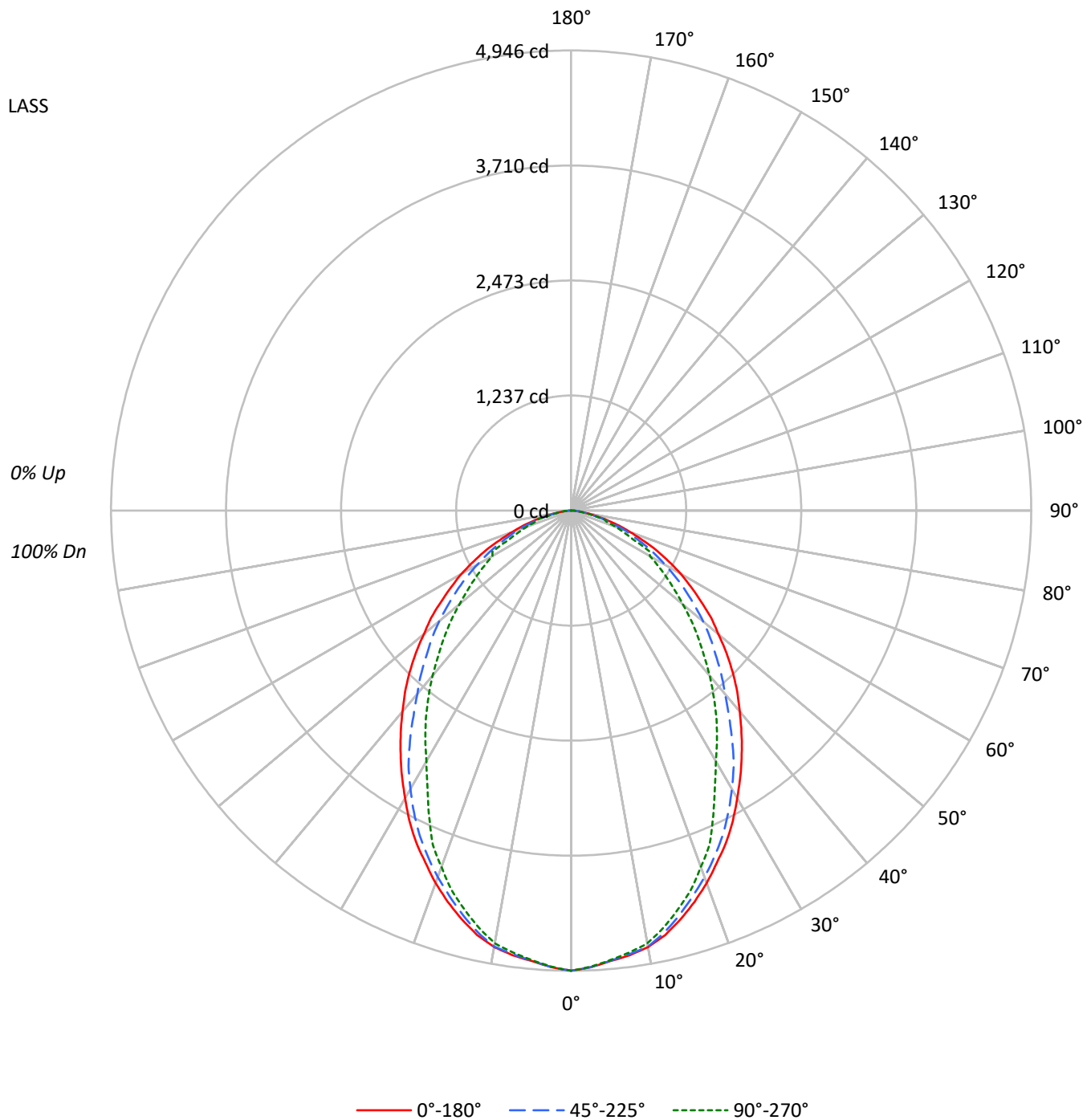
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6655	6655	6655
5°	6565	6557	6549
10°	6508	6500	6453
15°	6332	6268	6181
20°	6100	6001	5838
25°	5849	5722	5365
30°	5544	5366	4833
35°	5250	4959	4471
40°	4951	4519	4067
45°	4668	4178	3678
50°	4321	3878	3280
55°	3997	3514	2938
60°	3662	3139	2631
65°	3222	2749	2330
70°	2654	2407	1980
75°	2111	1843	1932
80°	1418	1329	1241
85°	883	1059	1237

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4668 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	460.4	4.7
10°-20°	1263.6	13.0
20°-30°	1749.3	18.0
30°-40°	1865.3	19.2
40°-50°	1701.7	17.5
50°-60°	1333.2	13.7
60°-70°	868.9	8.9
70°-80°	385.0	4.0
80°-90°	82.6	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°	3473.3	35.8
0°-40°	5338.6	55.0
0°-60°	8373.5	86.2
0°-90°	9710.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9710.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4946	4946	4946	4946	4946	
5°	4860	4855	4855	4849	4849	461
15°	4546	4546	4500	4454	4437	1278
25°	3940	3917	3854	3717	3614	1809
35°	3196	3174	3019	2790	2722	1998
45°	2453	2402	2196	2013	1933	1890
55°	1704	1652	1498	1321	1252	1528
65°	1012	955	863	881	732	997
75°	406	377	354	337	372	435
85°	57	63	69	74	80	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4946.1	4946.1	4946.1	4946.1	4946.1
2.5°	4911.8	4911.8	4911.8	4906.1	4906.1
5°	4860.4	4854.7	4854.7	4848.9	4848.9
7.5°	4820.3	4814.6	4808.9	4803.2	4791.8
10°	4763.2	4763.2	4757.4	4728.9	4723.1
12.5°	4671.7	4666.0	4643.1	4603.1	4591.6
15°	4545.9	4545.9	4500.1	4454.4	4437.2
17.5°	4408.6	4402.9	4345.7	4300.0	4277.1
20°	4260.0	4248.5	4191.4	4117.0	4077.0
22.5°	4094.1	4094.1	4025.5	3928.3	3888.3
25°	3939.8	3916.9	3854.0	3716.8	3613.8
27.5°	3762.5	3728.2	3659.6	3465.2	3345.1
30°	3568.1	3550.9	3453.7	3202.1	3110.6
32.5°	3385.1	3356.5	3253.6	2990.6	2916.2
35°	3196.4	3173.5	3019.1	2790.4	2721.8
37.5°	3007.7	2979.1	2784.7	2601.7	2516.0
40°	2819.0	2784.7	2573.1	2407.3	2315.8
42.5°	2641.8	2596.0	2390.2	2212.9	2110.0
45°	2453.1	2401.6	2195.7	2012.8	1932.7
47.5°	2264.4	2218.6	2029.9	1841.2	1749.7
50°	2064.2	2024.2	1852.7	1664.0	1566.8
52.5°	1898.4	1835.5	1669.7	1481.0	1400.9
55°	1704.0	1652.5	1498.1	1320.9	1252.3
57.5°	1526.7	1475.3	1332.3	1166.5	1109.3
60°	1360.9	1286.6	1166.5	1023.5	977.8
62.5°	1177.9	1120.7	1017.8	897.7	954.9
65°	1012.1	954.9	863.4	880.6	731.9
67.5°	829.1	800.5	720.5	640.4	617.6
70°	674.7	640.4	611.8	526.1	503.2
72.5°	537.5	503.2	463.2	417.4	400.3
75°	406.0	377.4	354.5	337.4	371.7
77.5°	280.2	268.8	251.6	234.4	228.7
80°	183.0	177.3	171.5	165.8	160.1
82.5°	108.6	108.6	108.6	108.6	108.6
85°	57.2	62.9	68.6	74.3	80.1
87.5°	34.3	34.3	40.0	45.7	51.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)