

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: P563721

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563721
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-LD4-4HI-40-UNV-81-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15512.0 lumens
Efficiency: N/A
Efficacy: 89.8 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

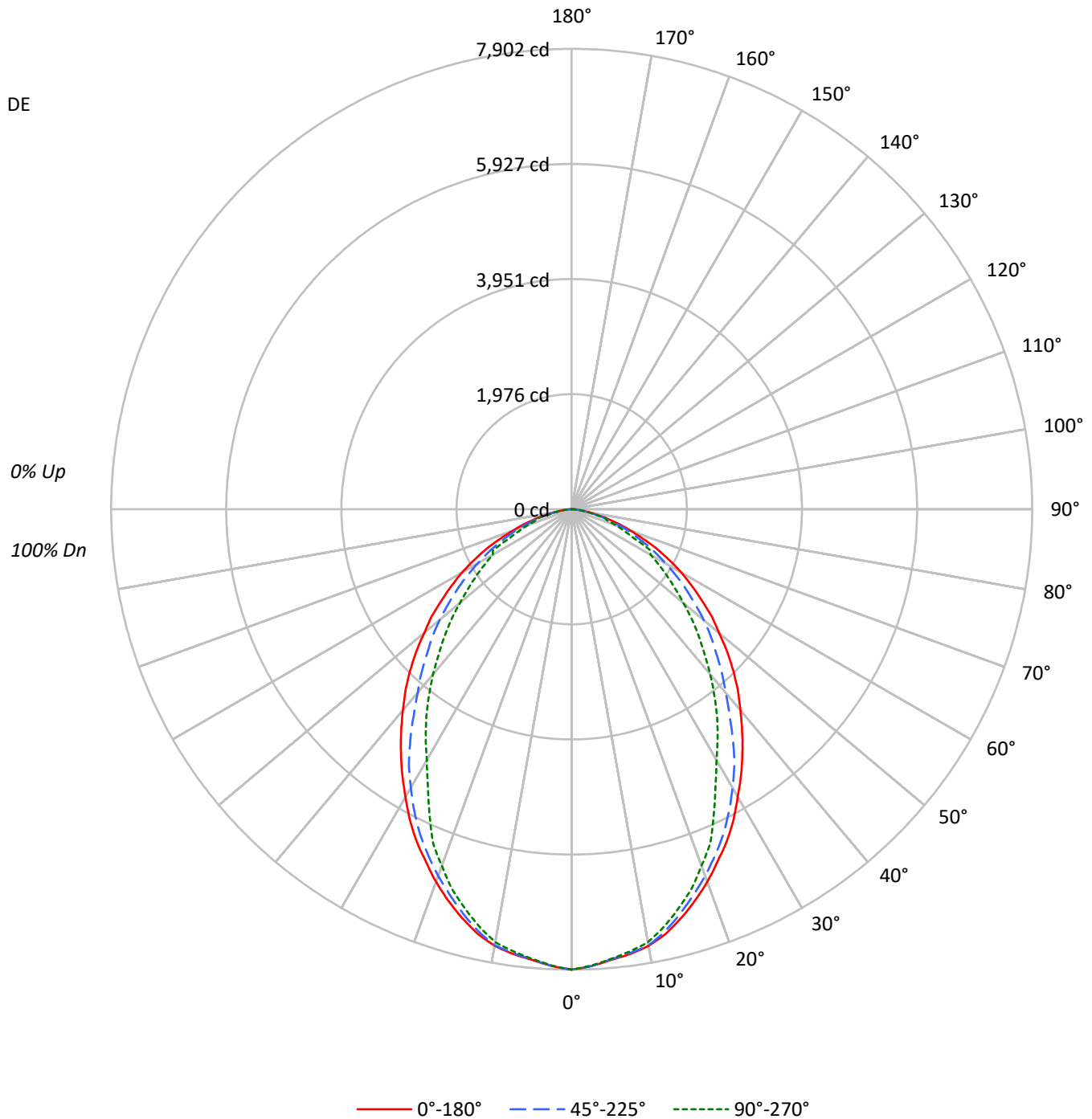
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10632	10632	10632
5°	10487	10475	10462
10°	10396	10384	10309
15°	10116	10014	9874
20°	9744	9587	9326
25°	9344	9140	8571
30°	8856	8572	7720
35°	8387	7922	7142
40°	7910	7220	6498
45°	7457	6675	5875
50°	6903	6195	5239
55°	6386	5614	4693
60°	5850	5015	4204
65°	5148	4392	3723
70°	4240	3845	3163
75°	3372	2944	3087
80°	2265	2123	1982
85°	1409	1692	1974

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7457 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	735.5	4.7
10°-20°	2018.6	13.0
20°-30°	2794.6	18.0
30°-40°	2979.9	19.2
40°-50°	2718.5	17.5
50°-60°	2129.7	13.7
60°-70°	1388.1	8.9
70°-80°	615.0	4.0
80°-90°	132.0	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°	5548.8	35.8
0°-40°	8528.7	55.0
0°-60°	13376.9	86.2
0°-90°	15512.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15512.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7902	7902	7902	7902	7902	
5°	7765	7755	7755	7746	7746	737
15°	7262	7262	7189	7116	7089	2042
25°	6294	6257	6157	5938	5773	2890
35°	5106	5070	4823	4458	4348	3192
45°	3919	3837	3508	3216	3088	3019
55°	2722	2640	2393	2110	2000	2442
65°	1617	1526	1379	1407	1169	1593
75°	649	603	566	539	594	695
85°	91	100	110	119	128	127
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7901.6	7901.6	7901.6	7901.6	7901.6
2.5°	7846.8	7846.8	7846.8	7837.7	7837.7
5°	7764.6	7755.4	7755.4	7746.3	7746.3
7.5°	7700.6	7691.5	7682.4	7673.2	7655.0
10°	7609.3	7609.3	7600.2	7554.5	7545.3
12.5°	7463.1	7454.0	7417.5	7353.5	7335.2
15°	7262.2	7262.2	7189.1	7116.0	7088.6
17.5°	7042.9	7033.8	6942.5	6869.4	6832.8
20°	6805.4	6787.2	6695.8	6577.1	6513.1
22.5°	6540.5	6540.5	6430.9	6275.6	6211.7
25°	6293.9	6257.3	6156.9	5937.6	5773.2
27.5°	6010.7	5955.9	5846.3	5535.7	5343.9
30°	5700.1	5672.7	5517.4	5115.5	4969.3
32.5°	5407.8	5362.1	5197.7	4777.5	4658.8
35°	5106.4	5069.8	4823.2	4457.8	4348.2
37.5°	4804.9	4759.2	4448.6	4156.3	4019.3
40°	4503.5	4448.6	4110.7	3845.8	3699.6
42.5°	4220.3	4147.2	3818.3	3535.2	3370.7
45°	3918.8	3836.6	3507.8	3215.5	3087.6
47.5°	3617.4	3544.3	3242.9	2941.4	2795.3
50°	3297.7	3233.7	2959.7	2658.2	2502.9
52.5°	3032.8	2932.3	2667.4	2365.9	2238.0
55°	2722.2	2640.0	2393.3	2110.1	2000.5
57.5°	2439.0	2356.8	2128.4	1863.5	1772.2
60°	2174.1	2055.3	1863.5	1635.1	1562.1
62.5°	1881.8	1790.4	1626.0	1434.2	1525.5
65°	1616.9	1525.5	1379.4	1406.8	1169.3
67.5°	1324.5	1278.9	1151.0	1023.1	986.6
70°	1077.9	1023.1	977.4	840.4	803.9
72.5°	858.7	803.9	739.9	666.8	639.4
75°	648.6	602.9	566.4	539.0	593.8
77.5°	447.6	429.3	401.9	374.5	365.4
80°	292.3	283.2	274.0	264.9	255.8
82.5°	173.6	173.6	173.6	173.6	173.6
85°	91.3	100.5	109.6	118.8	127.9
87.5°	54.8	54.8	63.9	73.1	82.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)