

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: P563181

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563181
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-LD4-3HI-40-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14405.0 lumens
Efficiency: N/A
Efficacy: 111.1 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

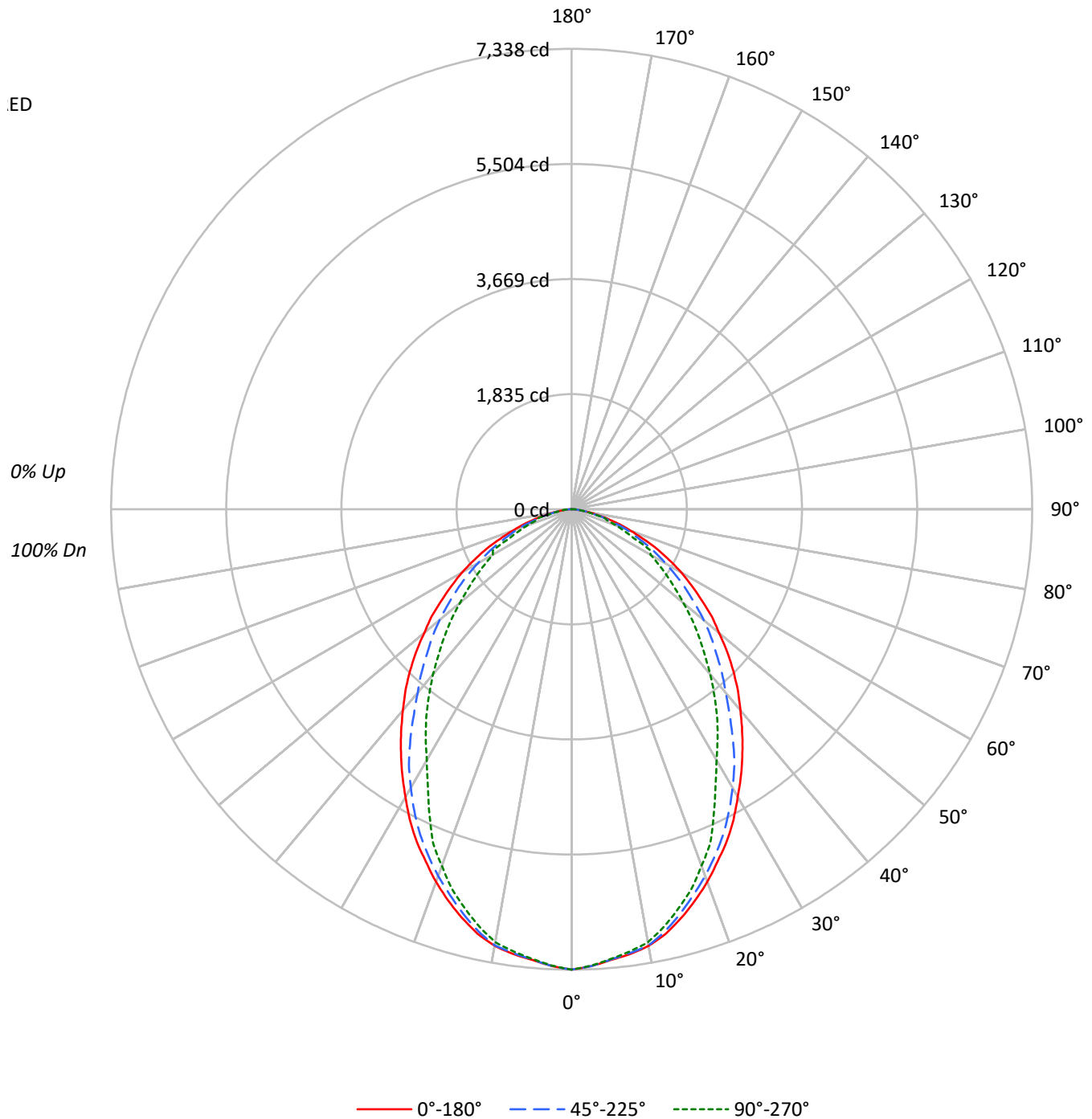
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9873	9873	9873
5°	9739	9727	9716
10°	9654	9643	9573
15°	9394	9299	9169
20°	9049	8903	8660
25°	8677	8488	7959
30°	8224	7960	7170
35°	7789	7357	6632
40°	7345	6705	6034
45°	6925	6198	5456
50°	6410	5753	4865
55°	5930	5214	4358
60°	5433	4657	3904
65°	4780	4078	3457
70°	3938	3571	2937
75°	3131	2734	2866
80°	2104	1972	1840
85°	1309	1572	1834

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6925 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	683.0	4.7
10°-20°	1874.5	13.0
20°-30°	2595.2	18.0
30°-40°	2767.2	19.2
40°-50°	2524.5	17.5
50°-60°	1977.8	13.7
60°-70°	1289.0	8.9
70°-80°	571.1	4.0
80°-90°	122.6	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°	5152.8	35.8
0°-40°	7920.0	55.0
0°-60°	12422.3	86.2
0°-90°	14405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7338	7338	7338	7338	7338	
5°	7210	7202	7202	7194	7194	684
15°	6744	6744	6676	6608	6583	1896
25°	5845	5811	5718	5514	5361	2683
35°	4742	4708	4479	4140	4038	2965
45°	3639	3563	3257	2986	2867	2803
55°	2528	2452	2222	1960	1858	2267
65°	1502	1417	1281	1306	1086	1480
75°	602	560	526	500	551	646
85°	85	93	102	110	119	118
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7337.7	7337.7	7337.7	7337.7	7337.7
2.5°	7286.8	7286.8	7286.8	7278.3	7278.3
5°	7210.5	7202.0	7202.0	7193.5	7193.5
7.5°	7151.1	7142.6	7134.1	7125.6	7108.7
10°	7066.3	7066.3	7057.8	7015.4	7006.9
12.5°	6930.5	6922.1	6888.1	6828.7	6811.8
15°	6743.9	6743.9	6676.0	6608.2	6582.7
17.5°	6540.3	6531.8	6447.0	6379.1	6345.2
20°	6319.8	6302.8	6218.0	6107.7	6048.3
22.5°	6073.8	6073.8	5972.0	5827.8	5768.4
25°	5844.7	5810.8	5717.5	5513.9	5361.2
27.5°	5581.8	5530.9	5429.1	5140.6	4962.5
30°	5293.3	5267.9	5123.7	4750.4	4614.7
32.5°	5021.9	4979.5	4826.8	4436.6	4326.3
35°	4741.9	4708.0	4479.0	4139.7	4037.9
37.5°	4462.0	4419.6	4131.2	3859.7	3732.5
40°	4182.1	4131.2	3817.3	3571.3	3435.6
42.5°	3919.1	3851.2	3545.9	3282.9	3130.2
45°	3639.2	3562.8	3257.4	2986.0	2867.2
47.5°	3359.2	3291.4	3011.4	2731.5	2595.8
50°	3062.3	3002.9	2748.5	2468.5	2324.3
52.5°	2816.3	2723.0	2477.0	2197.1	2078.3
55°	2527.9	2451.6	2222.5	1959.6	1857.8
57.5°	2264.9	2188.6	1976.5	1730.5	1645.7
60°	2018.9	1908.7	1730.5	1518.4	1450.6
62.5°	1747.5	1662.6	1510.0	1331.8	1416.6
65°	1501.5	1416.6	1280.9	1306.4	1085.8
67.5°	1230.0	1187.6	1068.8	950.1	916.2
70°	1001.0	950.1	907.7	780.4	746.5
72.5°	797.4	746.5	687.1	619.3	593.8
75°	602.3	559.9	525.9	500.5	551.4
77.5°	415.7	398.7	373.2	347.8	339.3
80°	271.5	263.0	254.5	246.0	237.5
82.5°	161.2	161.2	161.2	161.2	161.2
85°	84.8	93.3	101.8	110.3	118.8
87.5°	50.9	50.9	59.4	67.9	76.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)