

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: P563533

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563533
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-40-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11135.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

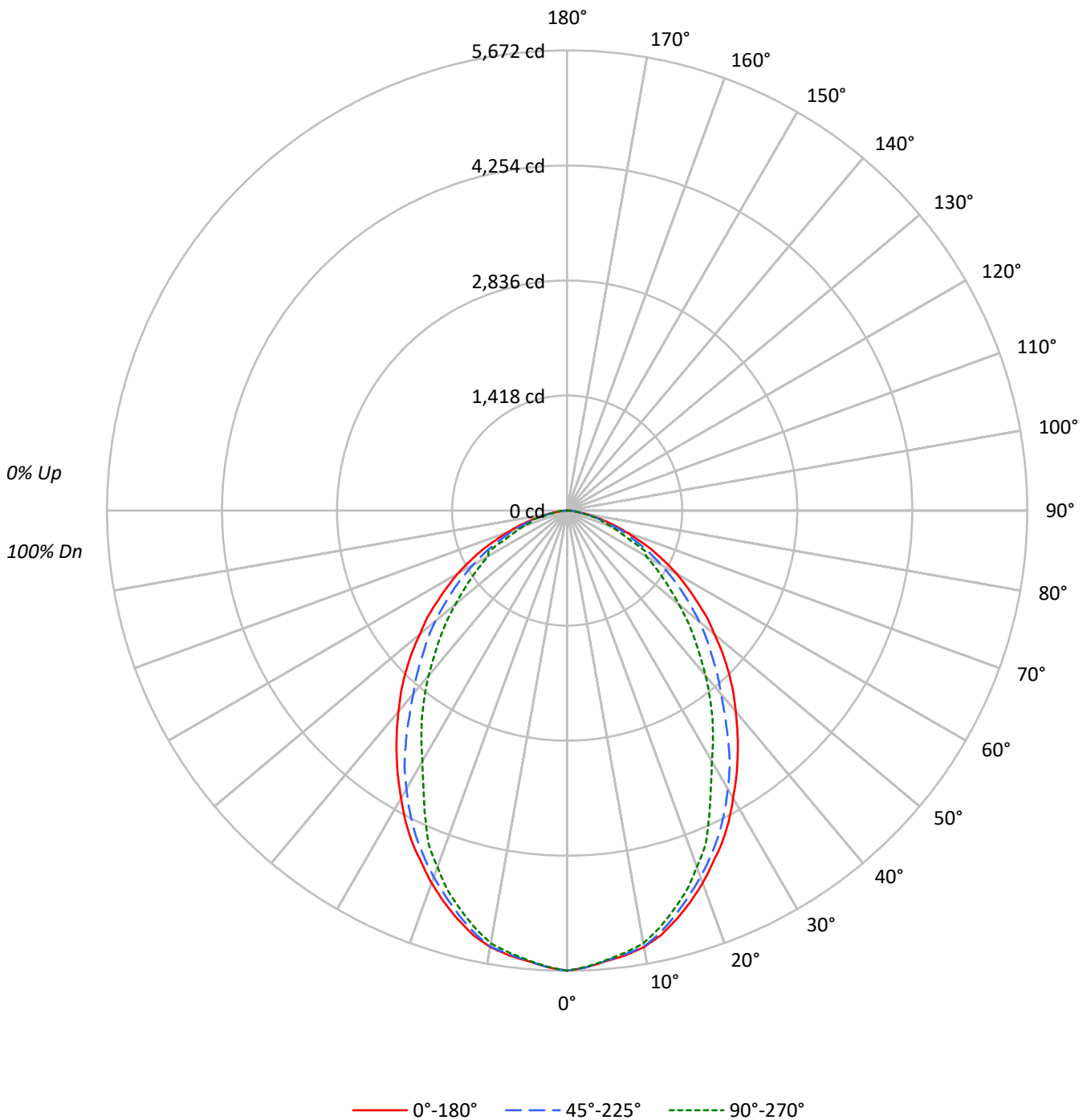
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7632	7632	7632
5°	7528	7519	7510
10°	7463	7454	7400
15°	7261	7188	7088
20°	6995	6882	6694
25°	6707	6561	6152
30°	6357	6153	5542
35°	6021	5687	5127
40°	5678	5183	4665
45°	5353	4791	4217
50°	4955	4447	3761
55°	4584	4030	3369
60°	4200	3600	3017
65°	3695	3152	2672
70°	3044	2760	2270
75°	2420	2113	2216
80°	1626	1524	1423
85°	1013	1215	1417

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5353 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	528.0	4.7
10°-20°	1449.0	13.0
20°-30°	2006.1	18.0
30°-40°	2139.1	19.2
40°-50°	1951.4	17.5
50°-60°	1528.8	13.7
60°-70°	996.4	8.9
70°-80°	441.4	4.0
80°-90°	94.8	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°	3983.1	35.8
0°-40°	6122.1	55.0
0°-60°	9602.4	86.2
0°-90°	11135.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11135.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5672	5672	5672	5672	5672	
5°	5574	5567	5567	5560	5560	529
15°	5213	5213	5161	5108	5088	1466
25°	4518	4492	4420	4262	4144	2074
35°	3666	3639	3462	3200	3121	2292
45°	2813	2754	2518	2308	2216	2167
55°	1954	1895	1718	1515	1436	1753
65°	1161	1095	990	1010	839	1144
75°	466	433	406	387	426	499
85°	66	72	79	85	92	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5672.0	5672.0	5672.0	5672.0	5672.0
2.5°	5632.7	5632.7	5632.7	5626.1	5626.1
5°	5573.7	5567.1	5567.1	5560.5	5560.5
7.5°	5527.8	5521.2	5514.6	5508.1	5495.0
10°	5462.2	5462.2	5455.6	5422.8	5416.3
12.5°	5357.3	5350.7	5324.5	5278.6	5265.5
15°	5213.0	5213.0	5160.6	5108.1	5088.4
17.5°	5055.6	5049.1	4983.5	4931.1	4904.8
20°	4885.2	4872.0	4806.5	4721.2	4675.3
22.5°	4695.0	4695.0	4616.3	4504.8	4458.9
25°	4517.9	4491.7	4419.6	4262.2	4144.2
27.5°	4314.7	4275.3	4196.6	3973.7	3836.0
30°	4091.7	4072.1	3960.6	3672.1	3567.1
32.5°	3881.9	3849.1	3731.1	3429.4	3344.2
35°	3665.5	3639.3	3462.2	3199.9	3121.3
37.5°	3449.1	3416.3	3193.4	2983.5	2885.2
40°	3232.7	3193.4	2950.8	2760.6	2655.7
42.5°	3029.4	2977.0	2740.9	2537.7	2419.6
45°	2813.1	2754.0	2518.0	2308.2	2216.4
47.5°	2596.7	2544.2	2327.8	2111.4	2006.5
50°	2367.2	2321.3	2124.5	1908.2	1796.7
52.5°	2177.0	2104.9	1914.7	1698.3	1606.5
55°	1954.1	1895.0	1718.0	1514.7	1436.0
57.5°	1750.8	1691.8	1527.8	1337.7	1272.1
60°	1560.6	1475.4	1337.7	1173.7	1121.3
62.5°	1350.8	1285.2	1167.2	1029.5	1095.1
65°	1160.6	1095.1	990.1	1009.8	839.3
67.5°	950.8	918.0	826.2	734.4	708.2
70°	773.8	734.4	701.6	603.3	577.0
72.5°	616.4	577.0	531.1	478.7	459.0
75°	465.6	432.8	406.5	386.9	426.2
77.5°	321.3	308.2	288.5	268.8	262.3
80°	209.8	203.3	196.7	190.2	183.6
82.5°	124.6	124.6	124.6	124.6	124.6
85°	65.6	72.1	78.7	85.2	91.8
87.5°	39.3	39.3	45.9	52.5	59.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)