

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: P563503

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563503
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-93-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11211.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

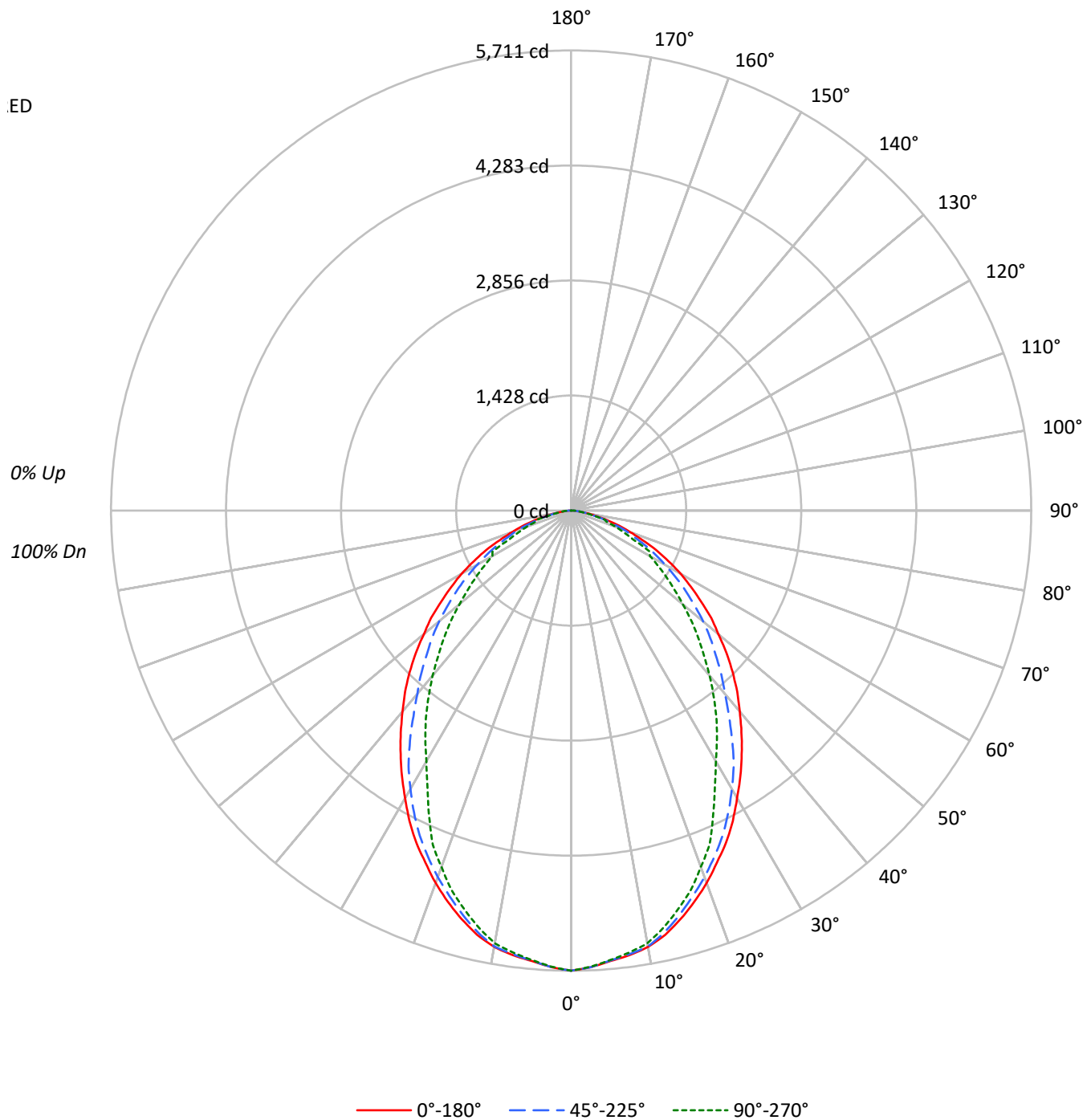
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7684	7684	7684
5°	7579	7570	7561
10°	7514	7505	7451
15°	7311	7238	7136
20°	7043	6929	6740
25°	6753	6606	6194
30°	6401	6195	5580
35°	6062	5726	5162
40°	5717	5218	4696
45°	5389	4824	4246
50°	4989	4477	3786
55°	4615	4058	3392
60°	4228	3624	3038
65°	3720	3174	2691
70°	3065	2779	2286
75°	2437	2128	2231
80°	1637	1535	1433
85°	1019	1223	1426

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	531.6	4.7
10°-20°	1458.9	13.0
20°-30°	2019.8	18.0
30°-40°	2153.7	19.2
40°-50°	1964.8	17.5
50°-60°	1539.2	13.7
60°-70°	1003.2	8.9
70°-80°	444.5	4.0
80°-90°	95.4	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°	4010.3	35.8
0°-40°	6163.9	55.0
0°-60°	9667.9	86.2
0°-90°	11211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5711	5711	5711	5711	5711	
5°	5612	5605	5605	5598	5598	533
15°	5249	5249	5196	5143	5123	1476
25°	4549	4522	4450	4291	4172	2088
35°	3690	3664	3486	3222	3143	2307
45°	2832	2773	2535	2324	2232	2182
55°	1967	1908	1730	1525	1446	1765
65°	1169	1102	997	1017	845	1152
75°	469	436	409	390	429	502
85°	66	73	79	86	92	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5710.7	5710.7	5710.7	5710.7	5710.7
2.5°	5671.1	5671.1	5671.1	5664.5	5664.5
5°	5611.7	5605.1	5605.1	5598.5	5598.5
7.5°	5565.5	5558.9	5552.3	5545.7	5532.5
10°	5499.5	5499.5	5492.9	5459.9	5453.3
12.5°	5393.8	5387.2	5360.8	5314.6	5301.4
15°	5248.6	5248.6	5195.8	5143.0	5123.2
17.5°	5090.1	5083.5	5017.5	4964.7	4938.3
20°	4918.5	4905.3	4839.3	4753.4	4707.2
22.5°	4727.0	4727.0	4647.8	4535.6	4489.4
25°	4548.8	4522.4	4449.8	4291.3	4172.5
27.5°	4344.1	4304.5	4225.3	4000.8	3862.2
30°	4119.7	4099.8	3987.6	3697.1	3591.5
32.5°	3908.4	3875.4	3756.5	3452.8	3367.0
35°	3690.5	3664.1	3485.9	3221.8	3142.6
37.5°	3472.7	3439.6	3215.2	3003.9	2904.9
40°	3254.8	3215.2	2970.9	2779.4	2673.8
42.5°	3050.1	2997.3	2759.6	2555.0	2436.1
45°	2832.3	2772.8	2535.2	2323.9	2231.5
47.5°	2614.4	2561.6	2343.7	2125.8	2020.2
50°	2383.3	2337.1	2139.0	1921.2	1808.9
52.5°	2191.9	2119.2	1927.8	1709.9	1617.5
55°	1967.4	1908.0	1729.7	1525.1	1445.8
57.5°	1762.7	1703.3	1538.3	1346.8	1280.8
60°	1571.3	1485.5	1346.8	1181.8	1128.9
62.5°	1360.0	1294.0	1175.2	1036.5	1102.5
65°	1168.6	1102.5	996.9	1016.7	845.1
67.5°	957.3	924.3	831.9	739.4	713.0
70°	779.0	739.4	706.4	607.4	581.0
72.5°	620.6	581.0	534.8	481.9	462.1
75°	468.7	435.7	409.3	389.5	429.1
77.5°	323.5	310.3	290.5	270.7	264.1
80°	211.3	204.7	198.1	191.5	184.9
82.5°	125.4	125.4	125.4	125.4	125.4
85°	66.0	72.6	79.2	85.8	92.4
87.5°	39.6	39.6	46.2	52.8	59.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)