

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: P563695

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563695
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-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: 18334.0 lumens
Efficiency: N/A
Efficacy: 106.1 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

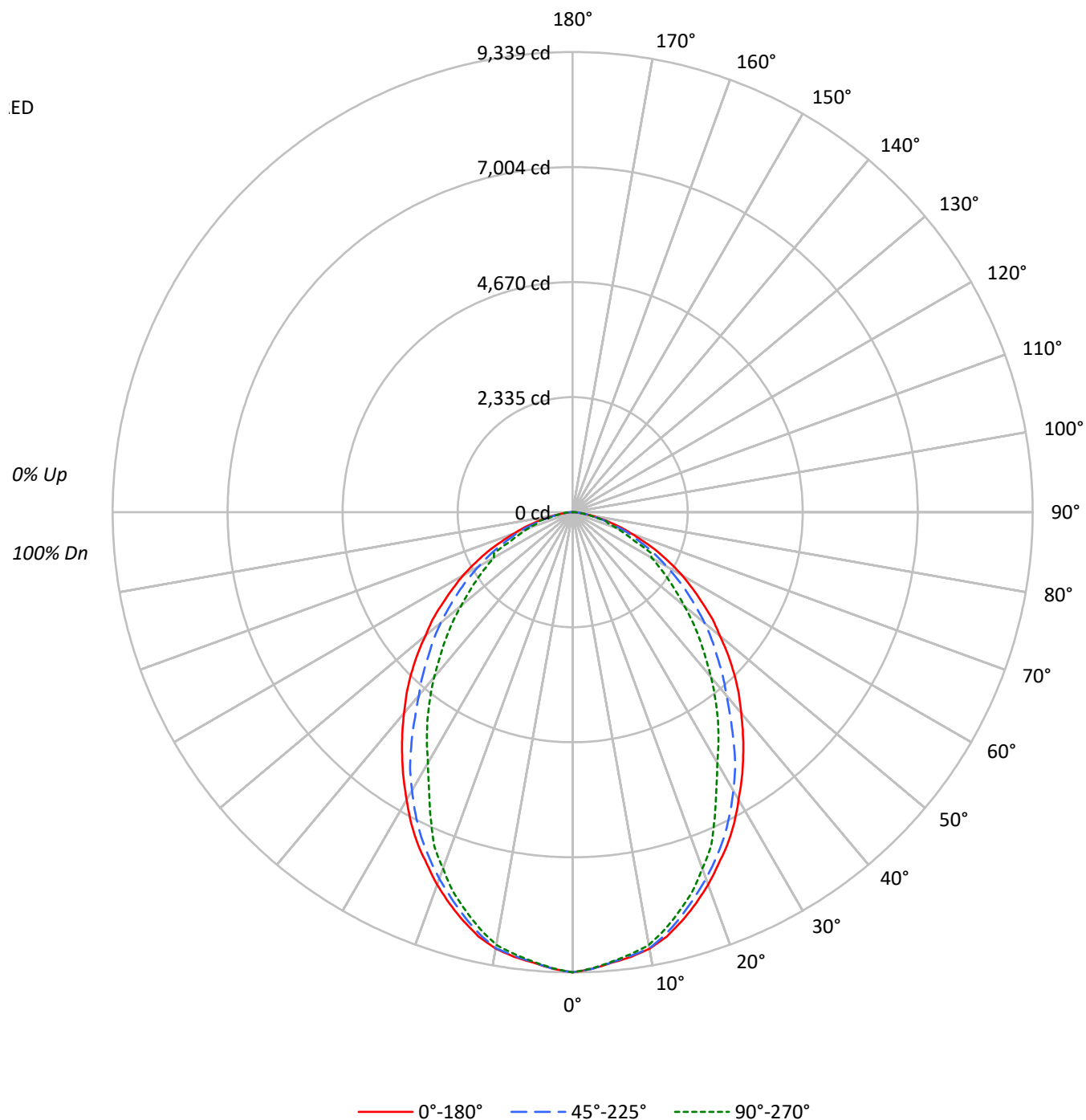
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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
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°	12566	12566	12566
5°	12395	12380	12366
10°	12287	12273	12184
15°	11956	11836	11670
20°	11517	11331	11022
25°	11044	10803	10130
30°	10467	10132	9125
35°	9913	9363	8441
40°	9349	8534	7680
45°	8813	7889	6944
50°	8158	7322	6192
55°	7547	6636	5547
60°	6915	5927	4968
65°	6084	5190	4400
70°	5012	4544	3738
75°	3985	3480	3648
80°	2677	2510	2342
85°	1667	2001	2334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8813 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	869.3	4.7
10°-20°	2385.8	13.0
20°-30°	3303.0	18.0
30°-40°	3522.0	19.2
40°-50°	3213.1	17.5
50°-60°	2517.2	13.7
60°-70°	1640.6	8.9
70°-80°	726.9	4.0
80°-90°	156.1	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°	6558.2	35.8
0°-40°	10080.2	55.0
0°-60°	15810.5	86.2
0°-90°	18334.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18334.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9339	9339	9339	9339	9339	
5°	9177	9166	9166	9156	9156	871
15°	8583	8583	8497	8411	8378	2413
25°	7439	7396	7277	7018	6824	3415
35°	6035	5992	5701	5269	5139	3773
45°	4632	4535	4146	3800	3649	3568
55°	3217	3120	2829	2494	2364	2886
65°	1911	1803	1630	1663	1382	1883
75°	767	713	669	637	702	822
85°	108	119	130	140	151	150
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9339.1	9339.1	9339.1	9339.1	9339.1
2.5°	9274.3	9274.3	9274.3	9263.5	9263.5
5°	9177.1	9166.3	9166.3	9155.6	9155.6
7.5°	9101.6	9090.8	9080.0	9069.2	9047.6
10°	8993.6	8993.6	8982.8	8928.8	8918.0
12.5°	8820.9	8810.1	8766.9	8691.3	8669.7
15°	8583.3	8583.3	8497.0	8410.6	8378.2
17.5°	8324.2	8313.4	8205.4	8119.1	8075.9
20°	8043.5	8021.9	7913.9	7773.6	7698.0
22.5°	7730.4	7730.4	7600.8	7417.3	7341.7
25°	7438.9	7395.7	7276.9	7017.8	6823.5
27.5°	7104.2	7039.4	6909.9	6542.8	6316.0
30°	6737.1	6704.7	6521.2	6046.1	5873.4
32.5°	6391.6	6337.6	6143.3	5646.6	5506.3
35°	6035.3	5992.1	5700.6	5268.8	5139.2
37.5°	5679.0	5625.1	5258.0	4912.5	4750.5
40°	5322.7	5258.0	4858.5	4545.4	4372.6
42.5°	4988.0	4901.7	4513.0	4178.3	3984.0
45°	4631.8	4534.6	4145.9	3800.4	3649.3
47.5°	4275.5	4189.1	3832.8	3476.5	3303.8
50°	3897.6	3822.0	3498.1	3141.8	2958.3
52.5°	3584.5	3465.7	3152.6	2796.3	2645.2
55°	3217.4	3120.2	2828.7	2494.0	2364.5
57.5°	2882.7	2785.5	2515.6	2202.5	2094.5
60°	2569.6	2429.2	2202.5	1932.6	1846.2
62.5°	2224.1	2116.1	1921.8	1695.1	1803.0
65°	1911.0	1803.0	1630.3	1662.7	1382.0
67.5°	1565.5	1511.5	1360.4	1209.2	1166.0
70°	1274.0	1209.2	1155.2	993.3	950.1
72.5°	1014.9	950.1	874.5	788.2	755.8
75°	766.6	712.6	669.4	637.0	701.8
77.5°	529.0	507.4	475.1	442.7	431.9
80°	345.5	334.7	323.9	313.1	302.3
82.5°	205.1	205.1	205.1	205.1	205.1
85°	108.0	118.8	129.6	140.4	151.2
87.5°	64.8	64.8	75.6	86.4	97.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)