

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: P563823

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563823
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18832.0 lumens
Efficiency: N/A
Efficacy: 109.0 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

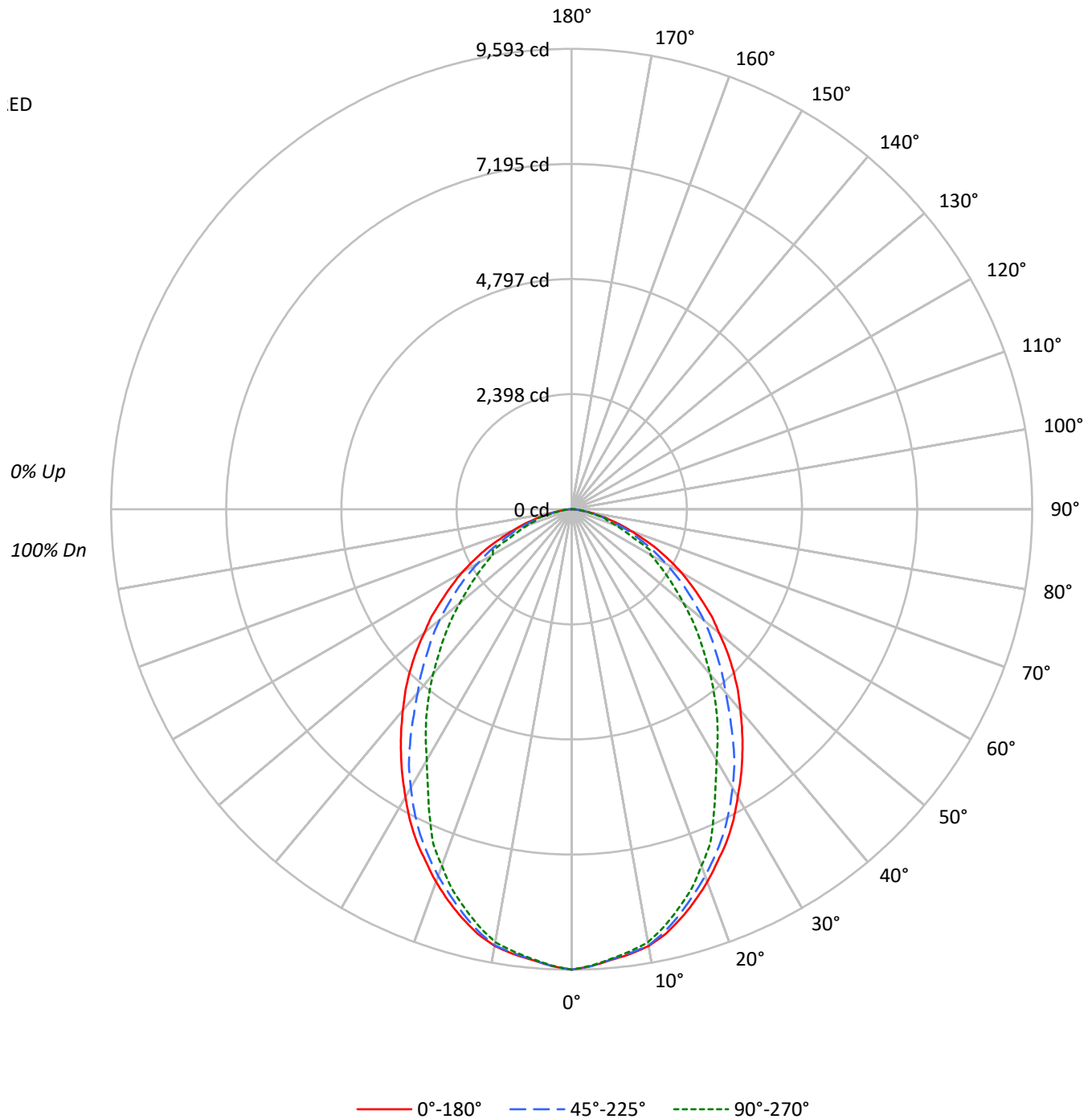
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	12907	12907	12907
5°	12732	12717	12702
10°	12621	12606	12515
15°	12281	12157	11987
20°	11830	11639	11322
25°	11344	11097	10405
30°	10751	10407	9373
35°	10183	9618	8671
40°	9603	8765	7889
45°	9053	8103	7132
50°	8380	7521	6360
55°	7752	6816	5697
60°	7103	6088	5103
65°	6249	5331	4519
70°	5148	4668	3839
75°	4093	3575	3747
80°	2750	2578	2406
85°	1712	2055	2397

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9053 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	893.0	4.7
10°-20°	2450.6	13.0
20°-30°	3392.8	18.0
30°-40°	3617.7	19.2
40°-50°	3300.4	17.5
50°-60°	2585.6	13.7
60°-70°	1685.1	8.9
70°-80°	746.6	4.0
80°-90°	160.3	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°	6736.4	35.8
0°-40°	10354.0	55.0
0°-60°	16240.0	86.2
0°-90°	18832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18832.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9593	9593	9593	9593	9593	
5°	9426	9415	9415	9404	9404	895
15°	8816	8816	8728	8639	8606	2479
25°	7641	7597	7475	7208	7009	3508
35°	6199	6155	5856	5412	5279	3876
45°	4758	4658	4258	3904	3748	3665
55°	3305	3205	2906	2562	2429	2964
65°	1963	1852	1675	1708	1420	1934
75°	787	732	688	654	721	844
85°	111	122	133	144	155	154
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9592.8	9592.8	9592.8	9592.8	9592.8
2.5°	9526.2	9526.2	9526.2	9515.1	9515.1
5°	9426.4	9415.3	9415.3	9404.2	9404.2
7.5°	9348.8	9337.7	9326.6	9315.5	9293.3
10°	9237.9	9237.9	9226.8	9171.4	9160.3
12.5°	9060.5	9049.4	9005.0	8927.4	8905.2
15°	8816.5	8816.5	8727.8	8639.0	8605.8
17.5°	8550.3	8539.2	8428.3	8339.6	8295.3
20°	8262.0	8239.8	8128.9	7984.7	7907.1
22.5°	7940.4	7940.4	7807.3	7618.8	7541.1
25°	7640.9	7596.6	7474.6	7208.4	7008.8
27.5°	7297.2	7230.6	7097.5	6720.5	6487.6
30°	6920.1	6886.8	6698.3	6210.3	6032.9
32.5°	6565.2	6509.8	6310.2	5800.0	5655.9
35°	6199.3	6154.9	5855.5	5411.9	5278.8
37.5°	5833.3	5777.8	5400.8	5045.9	4879.6
40°	5467.3	5400.8	4990.5	4668.9	4491.4
42.5°	5123.5	5034.8	4635.6	4291.8	4092.2
45°	4757.6	4657.8	4258.5	3903.6	3748.4
47.5°	4391.6	4302.9	3936.9	3570.9	3393.5
50°	4003.5	3925.8	3593.1	3227.2	3038.6
52.5°	3681.8	3559.9	3238.3	2872.3	2717.0
55°	3304.8	3205.0	2905.6	2561.8	2428.7
57.5°	2961.0	2861.2	2583.9	2262.3	2151.4
60°	2639.4	2495.2	2262.3	1985.1	1896.4
62.5°	2284.5	2173.6	1974.0	1741.1	1852.0
65°	1962.9	1852.0	1674.6	1707.8	1419.5
67.5°	1608.0	1552.6	1397.3	1242.1	1197.7
70°	1308.6	1242.1	1186.6	1020.3	975.9
72.5°	1042.5	975.9	898.3	809.6	776.3
75°	787.4	731.9	687.6	654.3	720.8
77.5°	543.4	521.2	488.0	454.7	443.6
80°	354.9	343.8	332.7	321.6	310.5
82.5°	210.7	210.7	210.7	210.7	210.7
85°	110.9	122.0	133.1	144.2	155.3
87.5°	66.5	66.5	77.6	88.7	99.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)