

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: P563808

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563808
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17143.0 lumens
Efficiency: N/A
Efficacy: 99.2 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

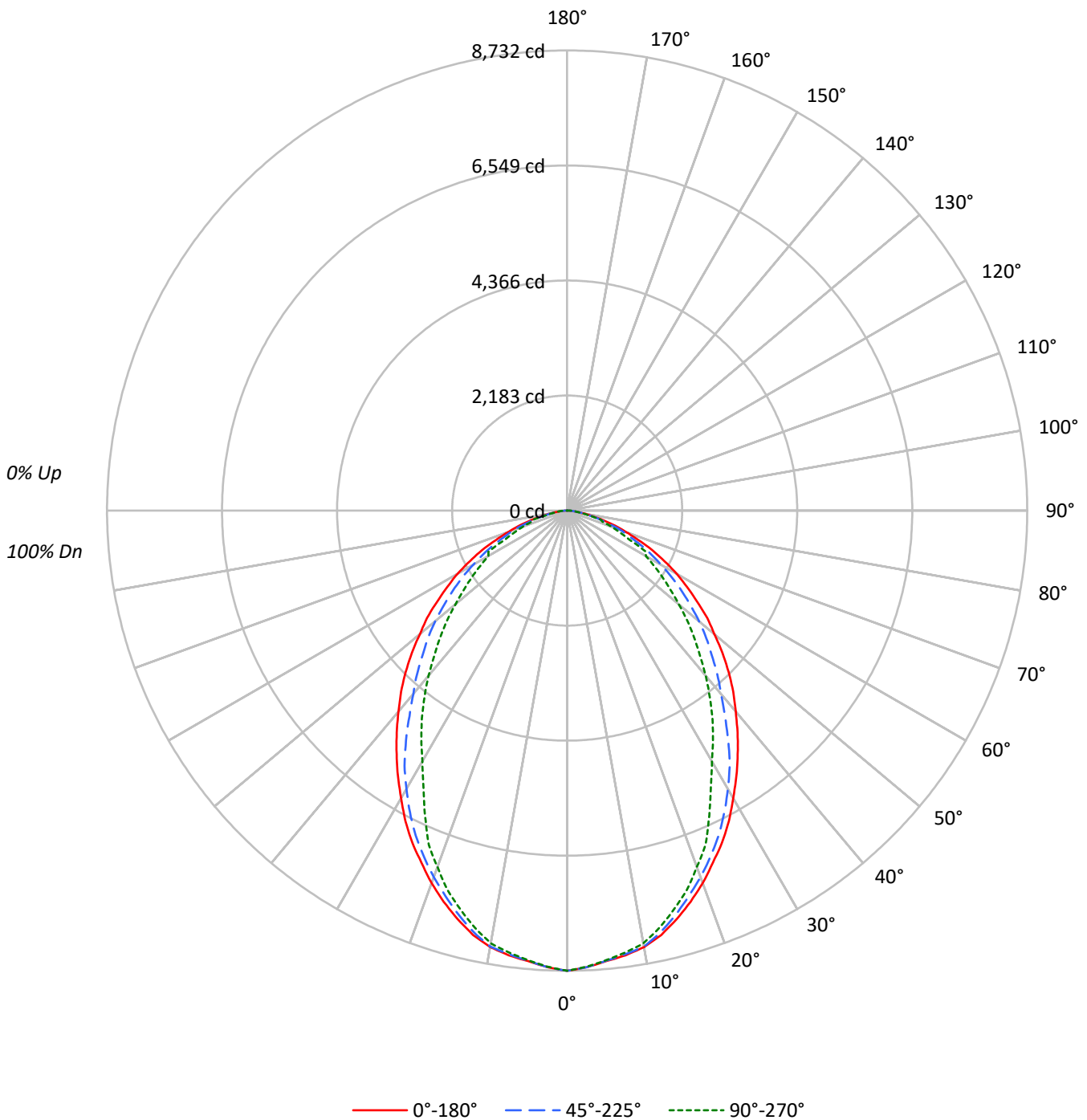
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11749	11749	11749
5°	11590	11576	11562
10°	11489	11476	11393
15°	11179	11067	10912
20°	10769	10595	10306
25°	10326	10101	9472
30°	9787	9473	8532
35°	9269	8755	7893
40°	8742	7979	7181
45°	8241	7376	6493
50°	7628	6847	5790
55°	7057	6205	5186
60°	6466	5542	4645
65°	5689	4853	4114
70°	4686	4249	3495
75°	3726	3254	3411
80°	2503	2347	2190
85°	1559	1870	2181

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8241 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	812.9	4.7
10°-20°	2230.9	13.0
20°-30°	3088.5	18.0
30°-40°	3293.2	19.2
40°-50°	3004.4	17.5
50°-60°	2353.7	13.7
60°-70°	1534.0	8.9
70°-80°	679.6	4.0
80°-90°	145.9	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°	6132.2	35.8
0°-40°	9425.4	55.0
0°-60°	14783.4	86.2
0°-90°	17143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17143.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8732	8732	8732	8732	8732	
5°	8581	8571	8571	8561	8561	815
15°	8026	8026	7945	7864	7834	2256
25°	6956	6915	6804	6562	6380	3193
35°	5643	5603	5330	4926	4805	3528
45°	4331	4240	3877	3554	3412	3336
55°	3008	2918	2645	2332	2211	2698
65°	1787	1686	1524	1555	1292	1761
75°	717	666	626	596	656	768
85°	101	111	121	131	141	140
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8732.4	8732.4	8732.4	8732.4	8732.4
2.5°	8671.8	8671.8	8671.8	8661.7	8661.7
5°	8581.0	8570.9	8570.9	8560.8	8560.8
7.5°	8510.3	8500.2	8490.1	8480.0	8459.8
10°	8409.4	8409.4	8399.3	8348.8	8338.7
12.5°	8247.8	8237.7	8197.4	8126.7	8106.5
15°	8025.7	8025.7	7945.0	7864.2	7833.9
17.5°	7783.5	7773.4	7672.4	7591.6	7551.3
20°	7521.0	7500.8	7399.8	7268.6	7197.9
22.5°	7228.2	7228.2	7107.1	6935.5	6864.8
25°	6955.6	6915.3	6804.2	6561.9	6380.2
27.5°	6642.7	6582.1	6461.0	6117.7	5905.7
30°	6299.5	6269.2	6097.5	5653.4	5491.8
32.5°	5976.4	5925.9	5744.2	5279.8	5148.6
35°	5643.3	5602.9	5330.3	4926.5	4805.4
37.5°	5310.1	5259.6	4916.4	4593.4	4441.9
40°	4977.0	4916.4	4542.9	4250.1	4088.6
42.5°	4664.0	4583.3	4219.8	3906.9	3725.2
45°	4330.9	4240.0	3876.6	3553.5	3412.2
47.5°	3997.7	3917.0	3583.8	3250.7	3089.2
50°	3644.4	3573.7	3270.9	2937.7	2766.1
52.5°	3351.6	3240.6	2947.8	2614.7	2473.3
55°	3008.4	2917.5	2645.0	2332.0	2210.9
57.5°	2695.4	2604.6	2352.2	2059.4	1958.5
60°	2402.7	2271.4	2059.4	1807.1	1726.3
62.5°	2079.6	1978.7	1797.0	1585.0	1685.9
65°	1786.9	1685.9	1524.4	1554.7	1292.2
67.5°	1463.8	1413.3	1272.0	1130.7	1090.3
70°	1191.2	1130.7	1080.2	928.8	888.4
72.5°	949.0	888.4	817.7	737.0	706.7
75°	716.8	666.3	625.9	595.6	656.2
77.5°	494.7	474.5	444.2	413.9	403.8
80°	323.0	313.0	302.9	292.8	282.7
82.5°	191.8	191.8	191.8	191.8	191.8
85°	101.0	111.0	121.1	131.2	141.3
87.5°	60.6	60.6	70.7	80.8	90.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)