

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: P563099

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563099
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-LD4-3HI-35-UNV-82-94-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13385.0 lumens
Efficiency: N/A
Efficacy: 103.3 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

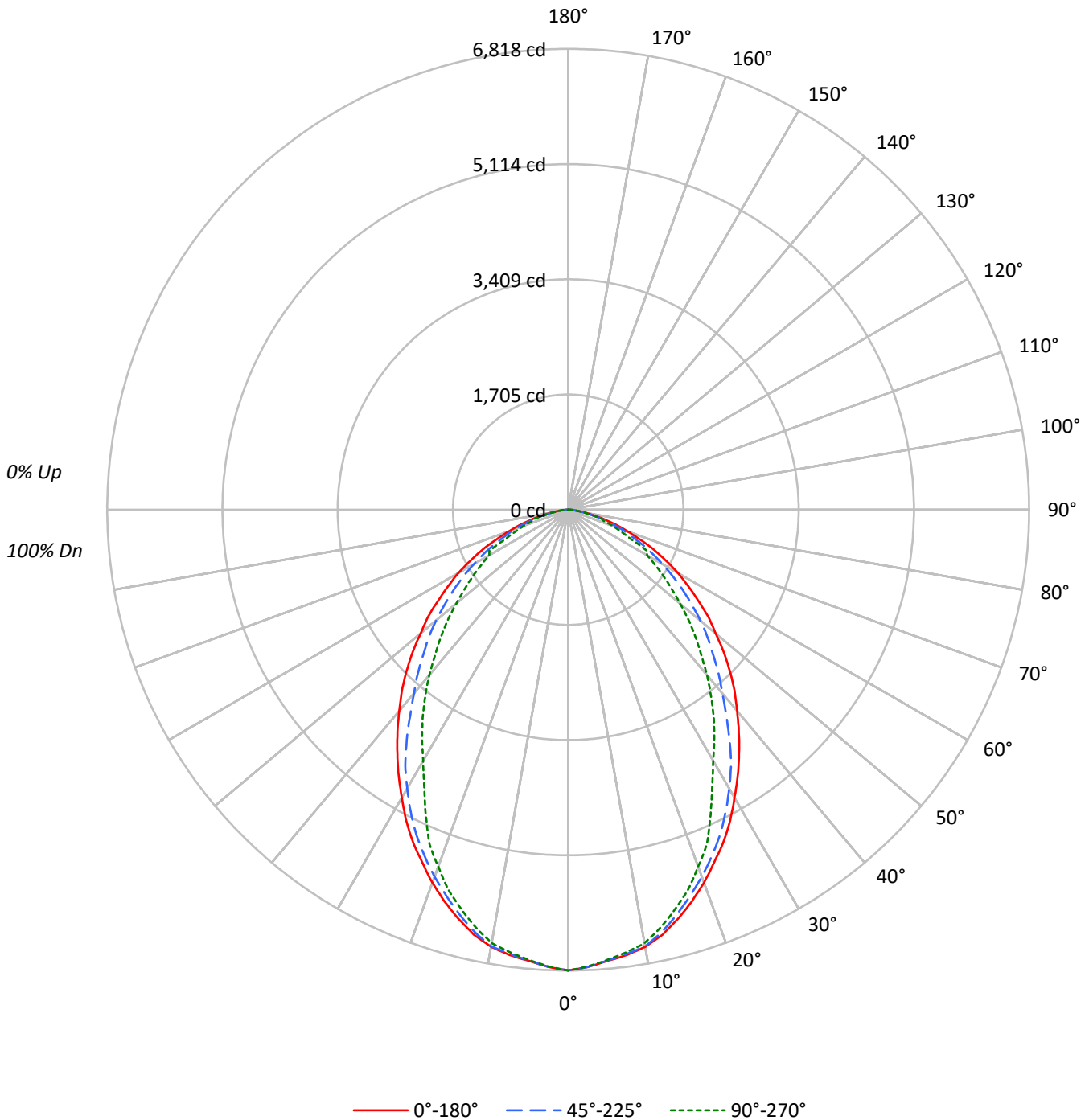
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9174	9174	9174
5°	9049	9038	9028
10°	8971	8960	8895
15°	8729	8641	8520
20°	8408	8273	8047
25°	8063	7887	7396
30°	7642	7397	6662
35°	7237	6836	6163
40°	6825	6230	5607
45°	6434	5759	5069
50°	5956	5346	4521
55°	5510	4844	4049
60°	5048	4327	3627
65°	4442	3789	3212
70°	3659	3318	2729
75°	2909	2541	2663
80°	1954	1832	1710
85°	1216	1460	1704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6434 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	634.7	4.7
10°-20°	1741.8	13.0
20°-30°	2411.4	18.0
30°-40°	2571.3	19.2
40°-50°	2345.8	17.5
50°-60°	1837.7	13.7
60°-70°	1197.7	8.9
70°-80°	530.6	4.0
80°-90°	113.9	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°	4787.9	35.8
0°-40°	7359.2	55.0
0°-60°	11542.7	86.2
0°-90°	13385.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13385.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6818	6818	6818	6818	6818	
5°	6700	6692	6692	6684	6684	636
15°	6266	6266	6203	6140	6117	1762
25°	5431	5399	5313	5124	4982	2493
35°	4406	4375	4162	3846	3752	2755
45°	3382	3310	3027	2774	2664	2605
55°	2349	2278	2065	1821	1726	2107
65°	1395	1316	1190	1214	1009	1375
75°	560	520	489	465	512	600
85°	79	87	95	102	110	109
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6818.1	6818.1	6818.1	6818.1	6818.1
2.5°	6770.8	6770.8	6770.8	6763.0	6763.0
5°	6699.9	6692.0	6692.0	6684.1	6684.1
7.5°	6644.7	6636.8	6629.0	6621.1	6605.3
10°	6565.9	6565.9	6558.0	6518.6	6510.7
12.5°	6439.8	6431.9	6400.4	6345.2	6329.4
15°	6266.4	6266.4	6203.3	6140.3	6116.6
17.5°	6077.2	6069.3	5990.5	5927.4	5895.9
20°	5872.3	5856.5	5777.7	5675.2	5620.0
22.5°	5643.7	5643.7	5549.1	5415.1	5359.9
25°	5430.9	5399.3	5312.6	5123.5	4981.6
27.5°	5186.5	5139.2	5044.6	4776.6	4611.1
30°	4918.5	4894.9	4760.9	4414.1	4287.9
32.5°	4666.3	4626.9	4485.0	4122.4	4019.9
35°	4406.2	4374.6	4161.8	3846.5	3751.9
37.5°	4146.1	4106.6	3838.7	3586.4	3468.2
40°	3885.9	3838.7	3547.0	3318.4	3192.3
42.5°	3641.6	3578.5	3294.8	3050.4	2908.5
45°	3381.5	3310.5	3026.8	2774.5	2664.2
47.5°	3121.4	3058.3	2798.2	2538.1	2412.0
50°	2845.5	2790.3	2553.8	2293.7	2159.7
52.5°	2616.9	2530.2	2301.6	2041.5	1931.1
55°	2348.9	2278.0	2065.1	1820.8	1726.2
57.5°	2104.6	2033.6	1836.6	1608.0	1529.2
60°	1876.0	1773.5	1608.0	1410.9	1347.9
62.5°	1623.7	1544.9	1403.0	1237.5	1316.3
65°	1395.2	1316.3	1190.2	1213.9	1008.9
67.5°	1142.9	1103.5	993.2	882.8	851.3
70°	930.1	882.8	843.4	725.2	693.6
72.5°	740.9	693.6	638.5	575.4	551.8
75°	559.6	520.2	488.7	465.1	512.3
77.5°	386.2	370.5	346.8	323.2	315.3
80°	252.2	244.3	236.5	228.6	220.7
82.5°	149.8	149.8	149.8	149.8	149.8
85°	78.8	86.7	94.6	102.5	110.4
87.5°	47.3	47.3	55.2	63.1	70.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)