

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: P590791

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-82-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590791
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4HI-50-UNV-82-86-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8862.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

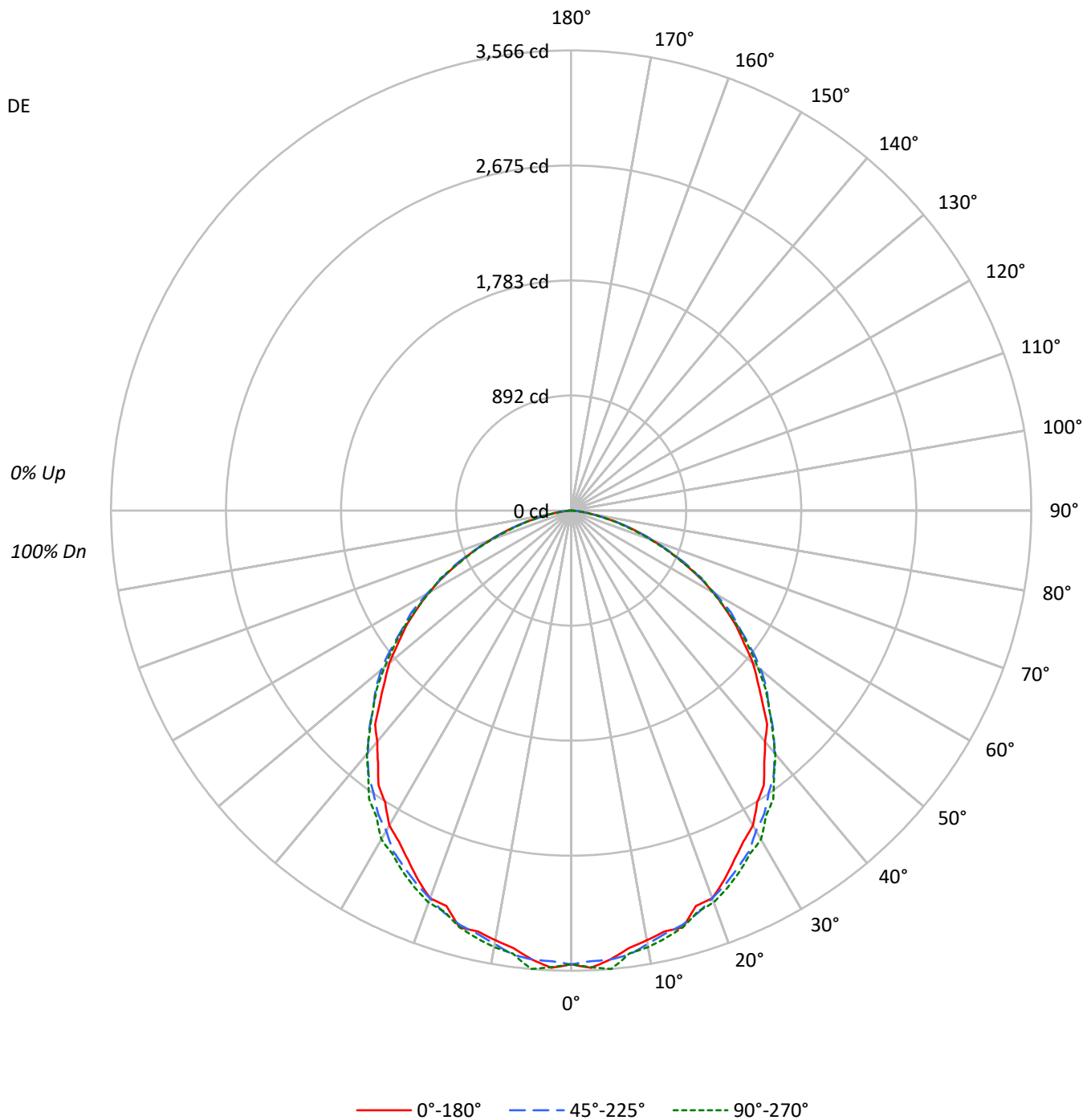
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9462	9462	9462
5°	9431	9434	9633
10°	9240	9320	9386
15°	9313	9262	9314
20°	9155	9155	9253
25°	8874	9068	9168
30°	8752	8906	9143
35°	8546	8770	8966
40°	8213	8609	8647
45°	7965	8248	8260
50°	7703	8051	7897
55°	7340	7483	7429
60°	6864	6932	6807
65°	6120	6276	6076
70°	5251	5268	5122
75°	4159	4149	3988
80°	2786	2709	2603
85°	1513	1501	1402

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8461 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.8	3.7
10°-20°	937.4	10.6
20°-30°	1404.4	15.8
30°-40°	1664.5	18.8
40°-50°	1667.6	18.8
50°-60°	1415.5	16.0
60°-70°	954.3	10.8
70°-80°	419.3	4.7
80°-90°	68.2	0.8
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°	2672.6	30.2
0°-40°	4337.1	48.9
0°-60°	7420.2	83.7
0°-90°	8862.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8862.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3516	3516	3516	3516	3516	
5°	3491	3483	3493	3482	3566	329
15°	3343	3304	3325	3342	3343	931
25°	2989	3005	3054	3094	3088	1382
35°	2601	2609	2670	2731	2729	1615
45°	2093	2132	2167	2223	2171	1619
55°	1564	1554	1595	1584	1584	1392
65°	961	948	986	948	954	956
75°	400	392	399	371	384	429
85°	49	48	49	47	45	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3516.2	3516.2	3516.2	3516.2	3516.2
2.5°	3546.6	3519.8	3494.9	3523.9	3541.6
5°	3491.2	3483.1	3492.6	3482.2	3566.2
7.5°	3419.5	3450.8	3469.0	3457.7	3462.6
10°	3381.4	3370.5	3410.9	3439.0	3435.0
12.5°	3340.5	3356.9	3359.1	3389.6	3392.3
15°	3342.8	3304.2	3324.6	3341.9	3343.2
17.5°	3212.9	3254.7	3268.8	3308.3	3259.3
20°	3197.1	3166.6	3197.1	3237.5	3231.1
22.5°	3099.4	3065.4	3130.8	3166.6	3164.4
25°	2988.7	3005.0	3054.0	3094.0	3087.6
27.5°	2891.5	2910.6	2980.5	3035.4	3000.0
30°	2816.6	2807.1	2866.1	2915.1	2942.4
32.5°	2682.7	2717.2	2786.2	2834.8	2808.9
35°	2601.4	2609.1	2669.5	2731.3	2729.4
37.5°	2459.3	2495.2	2580.1	2597.3	2581.4
40°	2338.1	2374.0	2450.7	2469.3	2461.6
42.5°	2248.7	2255.0	2320.8	2342.2	2308.1
45°	2092.9	2132.0	2167.4	2223.2	2170.6
47.5°	1960.4	1978.5	2054.8	2069.8	2042.1
50°	1840.1	1846.4	1923.1	1904.5	1886.4
52.5°	1688.9	1715.7	1758.8	1755.2	1733.8
55°	1564.5	1554.0	1594.9	1584.0	1583.5
57.5°	1415.1	1433.3	1466.9	1449.6	1421.9
60°	1275.3	1275.7	1288.0	1268.5	1264.8
62.5°	1119.6	1125.0	1127.7	1103.7	1142.7
65°	961.1	948.4	985.6	947.9	954.3
67.5°	815.4	821.7	818.1	794.5	803.6
70°	667.4	675.5	669.6	642.9	651.0
72.5°	532.1	522.1	528.5	494.9	510.3
75°	400.0	391.8	399.1	370.9	383.6
77.5°	272.4	278.8	274.2	259.2	267.9
80°	179.8	174.8	174.8	166.2	168.0
82.5°	104.9	99.9	98.5	95.8	99.9
85°	49.0	47.7	48.6	47.2	45.4
87.5°	17.7	18.2	18.2	17.3	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)