

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: P590720

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590720
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-35-UNV-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8527.0 lumens
Efficiency: N/A
Efficacy: 98.7 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

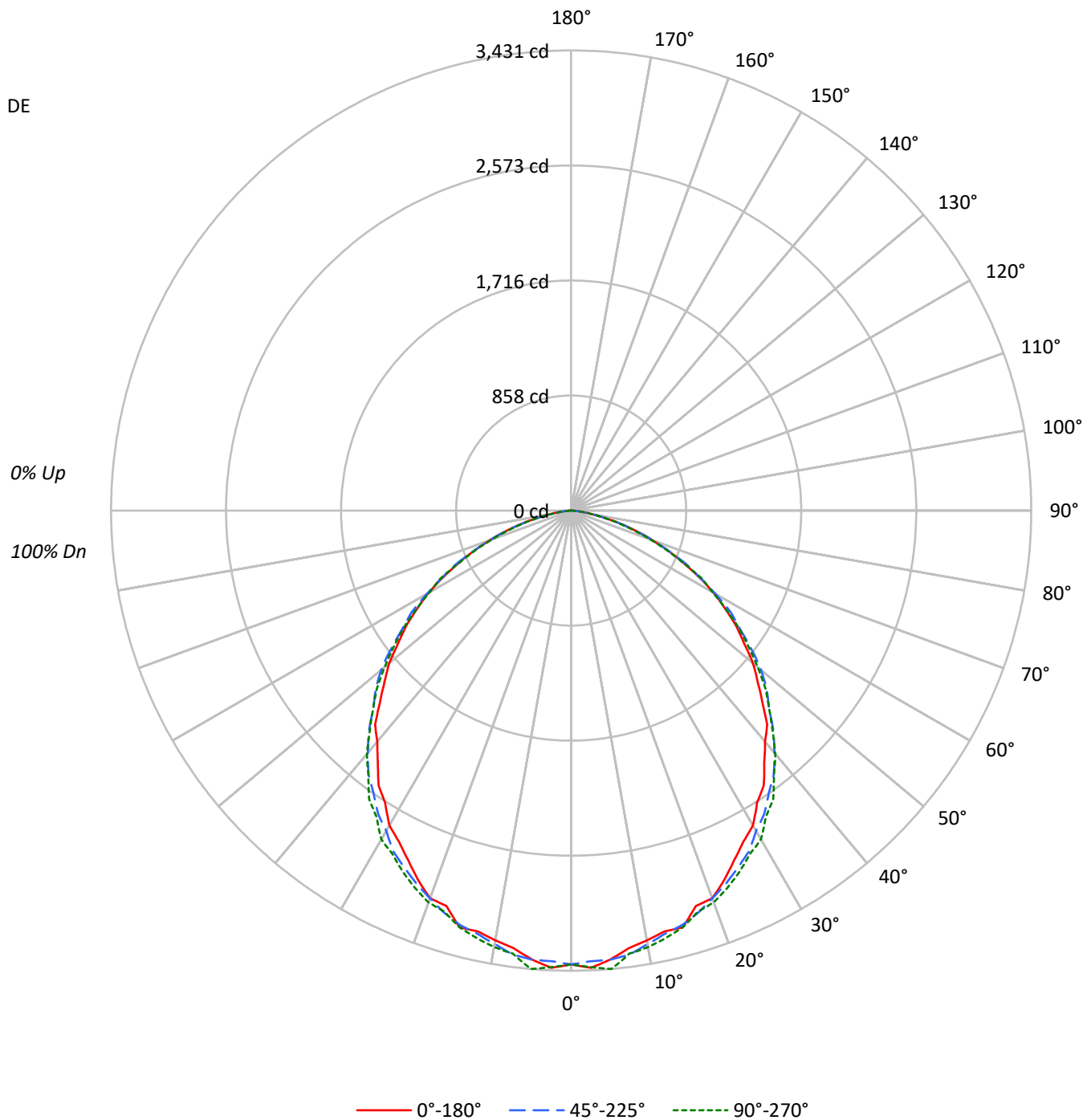
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9104	9104	9104
5°	9074	9078	9269
10°	8890	8968	9031
15°	8961	8912	8962
20°	8809	8809	8903
25°	8538	8725	8821
30°	8421	8569	8797
35°	8223	8438	8628
40°	7903	8283	8320
45°	7664	7937	7948
50°	7412	7747	7599
55°	7062	7200	7149
60°	6604	6670	6550
65°	5889	6039	5847
70°	5052	5069	4928
75°	4002	3993	3838
80°	2681	2607	2504
85°	1457	1442	1349

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8141 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.2	3.7
10°-20°	902.0	10.6
20°-30°	1351.3	15.8
30°-40°	1601.6	18.8
40°-50°	1604.6	18.8
50°-60°	1362.0	16.0
60°-70°	918.3	10.8
70°-80°	403.5	4.7
80°-90°	65.6	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°	2571.5	30.2
0°-40°	4173.1	48.9
0°-60°	7139.7	83.7
0°-90°	8527.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8527.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3383	3383	3383	3383	3383	
5°	3359	3351	3361	3350	3431	317
15°	3216	3179	3199	3216	3217	896
25°	2876	2891	2939	2977	2971	1329
35°	2503	2510	2569	2628	2626	1554
45°	2014	2051	2086	2139	2088	1558
55°	1505	1495	1535	1524	1524	1339
65°	925	913	948	912	918	920
75°	385	377	384	357	369	412
85°	47	46	47	45	44	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3383.3	3383.3	3383.3	3383.3	3383.3
2.5°	3412.6	3386.8	3362.8	3390.7	3407.8
5°	3359.3	3351.4	3360.6	3350.5	3431.4
7.5°	3290.3	3320.4	3337.9	3326.9	3331.8
10°	3253.6	3243.1	3282.0	3309.0	3305.1
12.5°	3214.2	3230.0	3232.2	3261.4	3264.0
15°	3216.4	3179.3	3199.0	3215.6	3216.9
17.5°	3091.5	3131.7	3145.2	3183.2	3136.0
20°	3076.2	3046.9	3076.2	3115.1	3109.0
22.5°	2982.3	2949.5	3012.4	3046.9	3044.7
25°	2875.7	2891.4	2938.6	2977.0	2970.9
27.5°	2782.2	2800.6	2867.8	2920.7	2886.6
30°	2710.1	2701.0	2757.7	2804.9	2831.1
32.5°	2581.3	2614.5	2680.9	2727.6	2702.7
35°	2503.1	2510.5	2568.6	2628.0	2626.3
37.5°	2366.3	2400.9	2482.5	2499.1	2483.9
40°	2249.7	2284.2	2358.0	2376.0	2368.5
42.5°	2163.7	2169.8	2233.1	2253.6	2220.9
45°	2013.8	2051.4	2085.5	2139.2	2088.5
47.5°	1886.3	1903.7	1977.1	1991.5	1964.9
50°	1770.5	1776.6	1850.4	1832.5	1815.1
52.5°	1625.0	1650.8	1692.3	1688.8	1668.3
55°	1505.3	1495.3	1534.6	1524.1	1523.7
57.5°	1361.6	1379.1	1411.4	1394.8	1368.2
60°	1227.1	1227.5	1239.3	1220.5	1217.0
62.5°	1077.2	1082.5	1085.1	1061.9	1099.5
65°	924.8	912.6	948.4	912.1	918.2
67.5°	784.6	790.7	787.2	764.5	773.2
70°	642.1	650.0	644.3	618.6	626.4
72.5°	512.0	502.4	508.5	476.2	491.0
75°	384.9	377.0	384.0	356.9	369.1
77.5°	262.1	268.2	263.8	249.4	257.7
80°	173.0	168.2	168.2	159.9	161.6
82.5°	100.9	96.1	94.8	92.2	96.1
85°	47.2	45.9	46.7	45.4	43.7
87.5°	17.0	17.5	17.5	16.6	15.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)