

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: P590763

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590763
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-40-UNV-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8913.0 lumens
Efficiency: N/A
Efficacy: 103.2 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

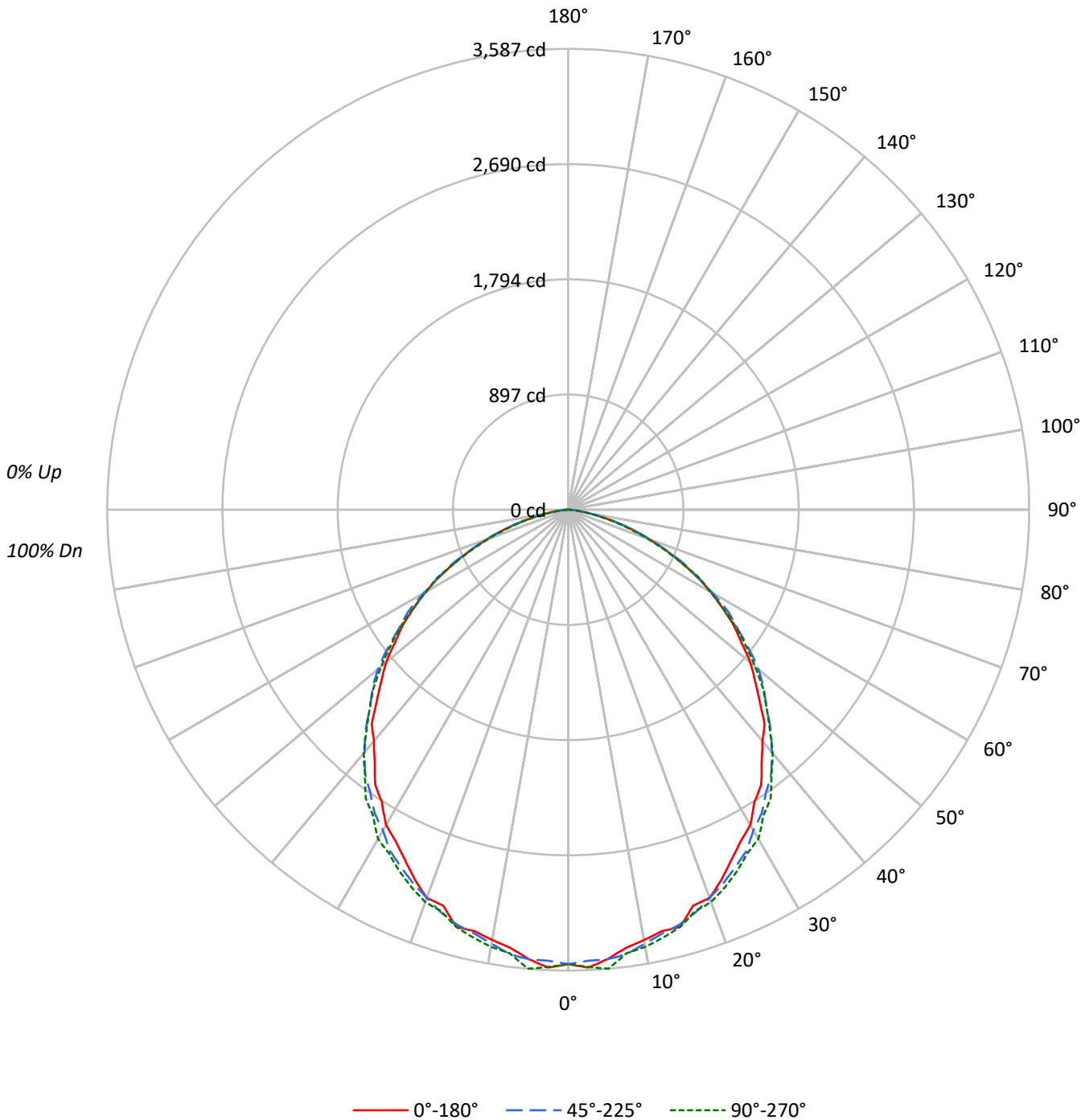
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9517	9517	9517
5°	9485	9489	9689
10°	9293	9374	9440
15°	9366	9316	9368
20°	9208	9208	9306
25°	8925	9120	9220
30°	8802	8957	9195
35°	8595	8820	9018
40°	8260	8658	8697
45°	8011	8296	8308
50°	7747	8097	7942
55°	7382	7526	7472
60°	6903	6972	6846
65°	6155	6312	6111
70°	5281	5299	5152
75°	4183	4173	4011
80°	2802	2724	2617
85°	1522	1510	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8509 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.7	3.7
10°-20°	942.8	10.6
20°-30°	1412.5	15.8
30°-40°	1674.1	18.8
40°-50°	1677.2	18.8
50°-60°	1423.7	16.0
60°-70°	959.8	10.8
70°-80°	421.8	4.7
80°-90°	68.5	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°	2687.9	30.2
0°-40°	4362.0	48.9
0°-60°	7462.9	83.7
0°-90°	8913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8913.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3536	3536	3536	3536	3536	
5°	3511	3503	3513	3502	3587	331
15°	3362	3323	3344	3361	3362	937
25°	3006	3022	3072	3112	3105	1390
35°	2616	2624	2685	2747	2745	1624
45°	2105	2144	2180	2236	2183	1628
55°	1574	1563	1604	1593	1593	1400
65°	967	954	991	953	960	961
75°	402	394	401	373	386	431
85°	49	48	49	48	46	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3536.5	3536.5	3536.5	3536.5	3536.5
2.5°	3567.0	3540.1	3515.0	3544.2	3562.0
5°	3511.3	3503.1	3512.7	3502.2	3586.7
7.5°	3439.2	3470.7	3489.0	3477.6	3482.6
10°	3400.8	3389.9	3430.5	3458.8	3454.7
12.5°	3359.7	3376.2	3378.5	3409.1	3411.8
15°	3362.0	3323.2	3343.8	3361.1	3362.5
17.5°	3231.4	3273.4	3287.6	3327.3	3278.0
20°	3215.5	3184.9	3215.5	3256.1	3249.7
22.5°	3117.3	3083.0	3148.8	3184.9	3182.6
25°	3005.9	3022.3	3071.6	3111.8	3105.4
27.5°	2908.2	2927.3	2997.7	3052.9	3017.3
30°	2832.8	2823.2	2882.6	2931.9	2959.3
32.5°	2698.1	2732.8	2802.2	2851.1	2825.1
35°	2616.4	2624.1	2684.9	2747.0	2745.1
37.5°	2473.5	2509.5	2594.9	2612.3	2596.3
40°	2351.5	2387.6	2464.8	2483.5	2475.7
42.5°	2261.6	2268.0	2334.2	2355.7	2321.4
45°	2105.0	2144.2	2179.9	2236.0	2183.1
47.5°	1971.6	1989.9	2066.6	2081.7	2053.8
50°	1850.6	1857.0	1934.2	1915.5	1897.2
52.5°	1698.6	1725.5	1768.9	1765.3	1743.8
55°	1573.5	1563.0	1604.1	1593.1	1592.7
57.5°	1423.3	1441.5	1475.3	1458.0	1430.1
60°	1282.6	1283.1	1295.4	1275.8	1272.1
62.5°	1126.0	1131.5	1134.2	1110.0	1149.3
65°	966.6	953.9	991.3	953.4	959.8
67.5°	820.1	826.5	822.8	799.1	808.2
70°	671.2	679.4	673.5	646.6	654.8
72.5°	535.1	525.1	531.5	497.7	513.2
75°	402.3	394.1	401.4	373.1	385.8
77.5°	274.0	280.4	275.8	260.7	269.4
80°	180.8	175.8	175.8	167.1	168.9
82.5°	105.5	100.5	99.1	96.3	100.5
85°	49.3	47.9	48.9	47.5	45.7
87.5°	17.8	18.3	18.3	17.4	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)