

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: P590730

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-82-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590730
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-82-94-EDD
Description: 2X2 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: 8924.0 lumens
Efficiency: N/A
Efficacy: 103.3 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

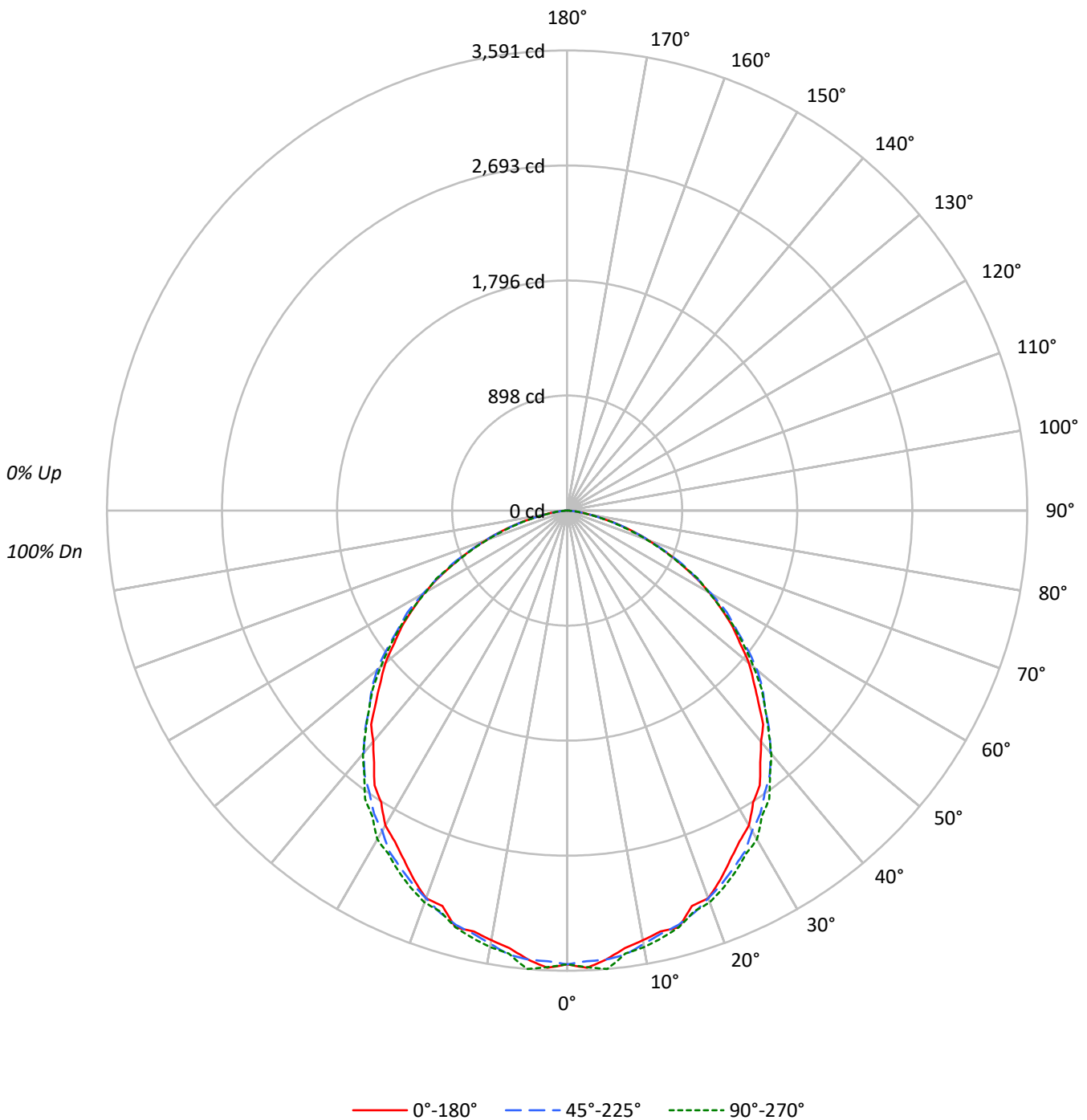
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	9528	9528	9528
5°	9497	9500	9700
10°	9304	9386	9452
15°	9378	9327	9379
20°	9219	9219	9318
25°	8936	9131	9232
30°	8813	8968	9207
35°	8606	8831	9029
40°	8271	8669	8708
45°	8021	8306	8318
50°	7757	8107	7953
55°	7391	7535	7481
60°	6912	6980	6855
65°	6162	6320	6119
70°	5287	5305	5158
75°	4188	4179	4016
80°	2805	2727	2622
85°	1525	1510	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8520 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.1	3.7
10°-20°	944.0	10.6
20°-30°	1414.2	15.8
30°-40°	1676.2	18.8
40°-50°	1679.3	18.8
50°-60°	1425.4	16.0
60°-70°	961.0	10.8
70°-80°	422.3	4.7
80°-90°	68.6	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°	2691.3	30.2
0°-40°	4367.4	48.9
0°-60°	7472.1	83.7
0°-90°	8924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8924.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3541	3541	3541	3541	3541	
5°	3516	3507	3517	3506	3591	331
15°	3366	3327	3348	3365	3367	938
25°	3010	3026	3075	3116	3109	1391
35°	2620	2627	2688	2750	2748	1626
45°	2108	2147	2183	2239	2186	1630
55°	1575	1565	1606	1595	1595	1401
65°	968	955	992	955	961	963
75°	403	394	402	374	386	432
85°	49	48	49	48	46	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3540.8	3540.8	3540.8	3540.8	3540.8
2.5°	3571.4	3544.5	3519.3	3548.6	3566.4
5°	3515.7	3507.4	3517.0	3506.5	3591.1
7.5°	3443.4	3475.0	3493.3	3481.8	3486.9
10°	3405.0	3394.1	3434.8	3463.1	3459.0
12.5°	3363.9	3380.3	3382.6	3413.3	3416.0
15°	3366.2	3327.3	3347.9	3365.3	3366.6
17.5°	3235.4	3277.5	3291.7	3331.4	3282.1
20°	3219.4	3188.8	3219.4	3260.1	3253.7
22.5°	3121.1	3086.8	3152.7	3188.8	3186.5
25°	3009.6	3026.0	3075.4	3115.6	3109.2
27.5°	2911.7	2930.9	3001.4	3056.7	3021.0
30°	2836.3	2826.7	2886.1	2935.5	2962.9
32.5°	2701.4	2736.2	2805.7	2854.6	2828.5
35°	2619.6	2627.4	2688.2	2750.4	2748.5
37.5°	2476.5	2512.6	2598.1	2615.5	2599.5
40°	2354.4	2390.6	2467.8	2486.6	2478.8
42.5°	2264.4	2270.8	2337.1	2358.6	2324.3
45°	2107.6	2146.9	2182.6	2238.8	2185.8
47.5°	1974.1	1992.4	2069.2	2084.3	2056.4
50°	1852.9	1859.3	1936.6	1917.8	1899.6
52.5°	1700.7	1727.7	1771.1	1767.4	1746.0
55°	1575.4	1564.9	1606.1	1595.1	1594.6
57.5°	1425.0	1443.3	1477.1	1459.8	1431.9
60°	1284.2	1284.7	1297.0	1277.3	1273.7
62.5°	1127.4	1132.9	1135.6	1111.4	1150.7
65°	967.8	955.0	992.5	954.6	961.0
67.5°	821.1	827.5	823.8	800.1	809.2
70°	672.0	680.3	674.3	647.4	655.6
72.5°	535.8	525.8	532.2	498.3	513.9
75°	402.8	394.5	401.9	373.5	386.3
77.5°	274.3	280.7	276.1	261.0	269.7
80°	181.0	176.0	176.0	167.3	169.2
82.5°	105.6	100.6	99.2	96.5	100.6
85°	49.4	48.0	48.9	47.5	45.7
87.5°	17.8	18.3	18.3	17.4	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)