

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: P590731

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590731
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-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 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: 8825.0 lumens
Efficiency: N/A
Efficacy: 102.1 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

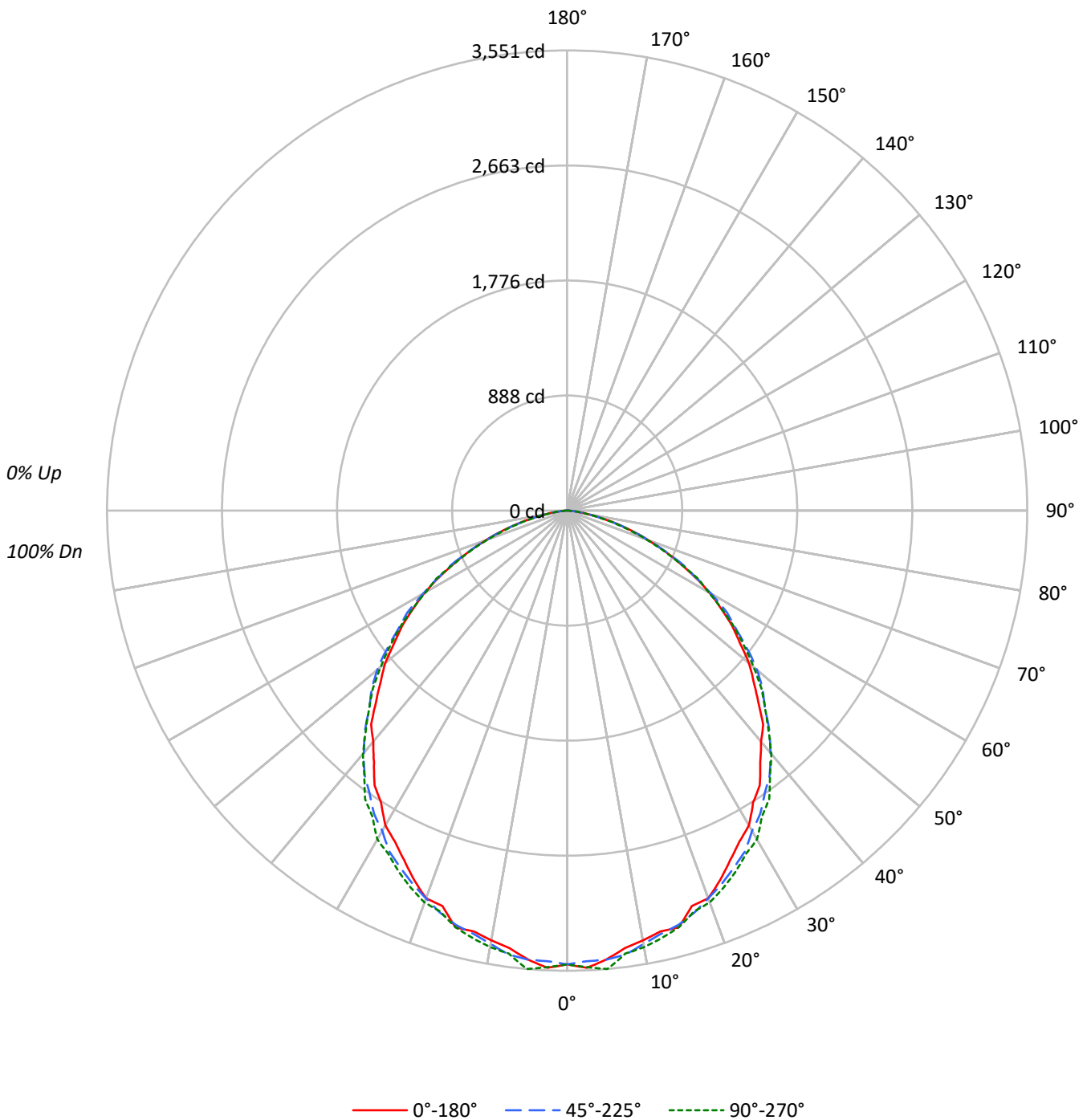
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9422	9422	9422
5°	9391	9395	9593
10°	9201	9281	9347
15°	9274	9223	9275
20°	9117	9117	9214
25°	8837	9030	9130
30°	8715	8868	9105
35°	8510	8733	8929
40°	8179	8573	8611
45°	7932	8214	8226
50°	7671	8017	7864
55°	7309	7451	7398
60°	6835	6903	6779
65°	6094	6250	6051
70°	5229	5247	5101
75°	4141	4132	3972
80°	2774	2698	2593
85°	1507	1494	1396

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8425 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	3.7
10°-20°	933.5	10.6
20°-30°	1398.6	15.8
30°-40°	1657.6	18.8
40°-50°	1660.6	18.8
50°-60°	1409.6	16.0
60°-70°	950.4	10.8
70°-80°	417.6	4.7
80°-90°	67.9	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°	2661.4	30.2
0°-40°	4319.0	48.9
0°-60°	7389.2	83.7
0°-90°	8825.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8825.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3502	3502	3502	3502	3502	
5°	3477	3468	3478	3468	3551	328
15°	3329	3290	3311	3328	3329	927
25°	2976	2992	3041	3081	3075	1376
35°	2590	2598	2658	2720	2718	1608
45°	2084	2123	2158	2214	2162	1612
55°	1558	1548	1588	1577	1577	1386
65°	957	944	982	944	950	952
75°	398	390	397	369	382	427
85°	49	48	48	47	45	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3501.5	3501.5	3501.5	3501.5	3501.5
2.5°	3531.8	3505.2	3480.3	3509.2	3526.9
5°	3476.7	3468.5	3478.0	3467.6	3551.3
7.5°	3405.2	3436.4	3454.5	3443.2	3448.2
10°	3367.3	3356.4	3396.6	3424.7	3420.6
12.5°	3326.6	3342.8	3345.1	3375.4	3378.1
15°	3328.8	3290.4	3310.7	3327.9	3329.3
17.5°	3199.5	3241.1	3255.1	3294.5	3245.6
20°	3183.7	3153.4	3183.7	3223.9	3217.6
22.5°	3086.5	3052.6	3117.7	3153.4	3151.2
25°	2976.2	2992.5	3041.3	3081.1	3074.8
27.5°	2879.4	2898.4	2968.1	3022.8	2987.5
30°	2804.8	2795.4	2854.1	2903.0	2930.1
32.5°	2671.5	2705.8	2774.6	2822.9	2797.2
35°	2590.5	2598.2	2658.4	2719.9	2718.0
37.5°	2449.0	2484.8	2569.3	2586.5	2570.7
40°	2328.3	2364.0	2440.5	2459.0	2451.3
42.5°	2239.3	2245.6	2311.2	2332.4	2298.5
45°	2084.2	2123.1	2158.3	2213.9	2161.5
47.5°	1952.2	1970.3	2046.2	2061.1	2033.6
50°	1832.4	1838.7	1915.1	1896.6	1878.5
52.5°	1681.8	1708.5	1751.4	1747.8	1726.6
55°	1557.9	1547.5	1588.2	1577.4	1576.9
57.5°	1409.2	1427.3	1460.7	1443.6	1416.0
60°	1270.0	1270.4	1282.6	1263.2	1259.6
62.5°	1114.9	1120.3	1123.0	1099.1	1137.9
65°	957.1	944.4	981.5	944.0	950.3
67.5°	812.0	818.3	814.7	791.2	800.2
70°	664.6	672.7	666.9	640.2	648.3
72.5°	529.9	519.9	526.2	492.8	508.2
75°	398.3	390.2	397.4	369.4	382.0
77.5°	271.3	277.6	273.1	258.2	266.7
80°	179.0	174.1	174.1	165.5	167.3
82.5°	104.4	99.5	98.1	95.4	99.5
85°	48.8	47.5	48.4	47.0	45.2
87.5°	17.6	18.1	18.1	17.2	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)