

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: P590736

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590736
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-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8994.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

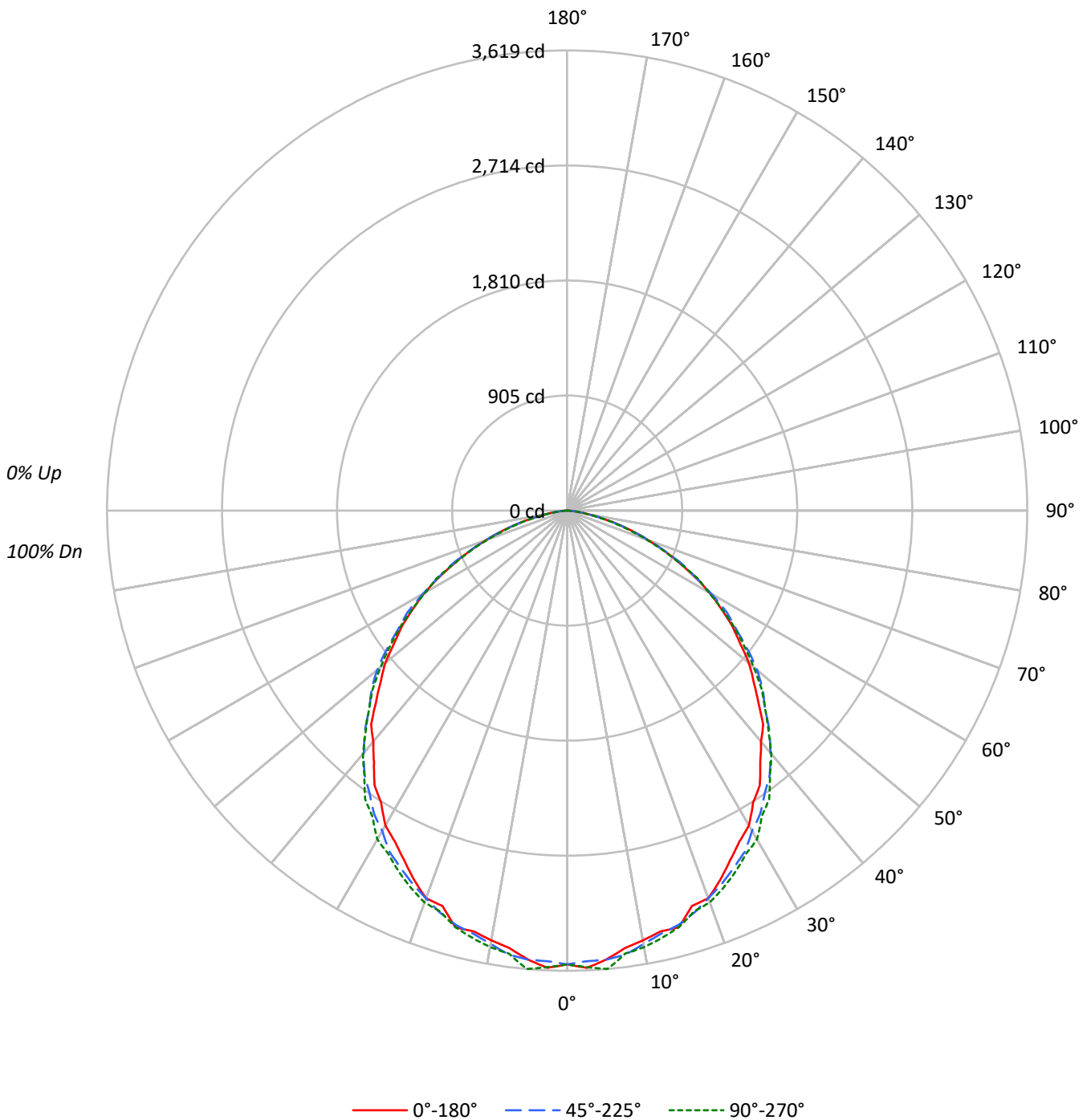
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9603	9603	9603
5°	9571	9575	9777
10°	9377	9459	9526
15°	9451	9400	9453
20°	9292	9292	9391
25°	9006	9203	9304
30°	8882	9038	9279
35°	8673	8900	9100
40°	8336	8737	8776
45°	8084	8371	8383
50°	7818	8171	8015
55°	7449	7594	7540
60°	6966	7035	6909
65°	6211	6369	6167
70°	5329	5347	5198
75°	4220	4211	4048
80°	2828	2749	2642
85°	1538	1522	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8587 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.7	3.7
10°-20°	951.4	10.6
20°-30°	1425.3	15.8
30°-40°	1689.3	18.8
40°-50°	1692.4	18.8
50°-60°	1436.6	16.0
60°-70°	968.5	10.8
70°-80°	425.6	4.7
80°-90°	69.2	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°	2712.4	30.2
0°-40°	4401.7	48.9
0°-60°	7530.7	83.7
0°-90°	8994.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8994.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3569	3569	3569	3569	3569	
5°	3543	3535	3545	3534	3619	334
15°	3393	3353	3374	3392	3393	945
25°	3033	3050	3100	3140	3134	1402
35°	2640	2648	2709	2772	2770	1639
45°	2124	2164	2200	2256	2203	1643
55°	1588	1577	1619	1608	1607	1412
65°	975	962	1000	962	968	970
75°	406	398	405	376	389	435
85°	50	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°	3568.6	3568.6	3568.6	3568.6	3568.6
2.5°	3599.5	3572.3	3546.9	3576.4	3594.4
5°	3543.3	3535.0	3544.6	3534.0	3619.3
7.5°	3470.4	3502.2	3520.7	3509.2	3514.2
10°	3431.7	3420.7	3461.7	3490.3	3486.1
12.5°	3390.3	3406.9	3409.2	3440.0	3442.8
15°	3392.6	3353.4	3374.2	3391.7	3393.0
17.5°	3260.8	3303.2	3317.5	3357.6	3307.8
20°	3244.7	3213.8	3244.7	3285.7	3279.2
22.5°	3145.6	3111.1	3177.4	3213.8	3211.5
25°	3033.2	3049.8	3099.5	3140.1	3133.6
27.5°	2934.6	2953.9	3024.9	3080.6	3044.7
30°	2858.6	2848.9	2908.8	2958.5	2986.2
32.5°	2722.6	2757.7	2827.7	2877.0	2850.7
35°	2640.2	2648.0	2709.3	2771.9	2770.1
37.5°	2495.9	2532.3	2618.5	2636.0	2619.9
40°	2372.9	2409.3	2487.2	2506.1	2498.2
42.5°	2282.1	2288.6	2355.4	2377.1	2342.5
45°	2124.1	2163.7	2199.7	2256.3	2202.9
47.5°	1989.6	2008.0	2085.4	2100.6	2072.5
50°	1867.5	1873.9	1951.8	1932.9	1914.5
52.5°	1714.0	1741.2	1785.0	1781.3	1759.6
55°	1587.8	1577.2	1618.7	1607.6	1607.1
57.5°	1436.2	1454.6	1488.7	1471.2	1443.1
60°	1294.3	1294.7	1307.2	1287.4	1283.7
62.5°	1136.2	1141.8	1144.5	1120.1	1159.7
65°	975.4	962.5	1000.3	962.1	968.5
67.5°	827.5	834.0	830.3	806.3	815.5
70°	677.3	685.6	679.6	652.4	660.7
72.5°	540.0	529.9	536.3	502.2	517.9
75°	405.9	397.6	405.0	376.4	389.3
77.5°	276.5	282.9	278.3	263.1	271.8
80°	182.5	177.4	177.4	168.6	170.5
82.5°	106.4	101.4	100.0	97.2	101.4
85°	49.8	48.4	49.3	47.9	46.1
87.5°	18.0	18.4	18.4	17.5	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)