

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: P590757

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-82-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590757
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-82-84-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8992.0 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

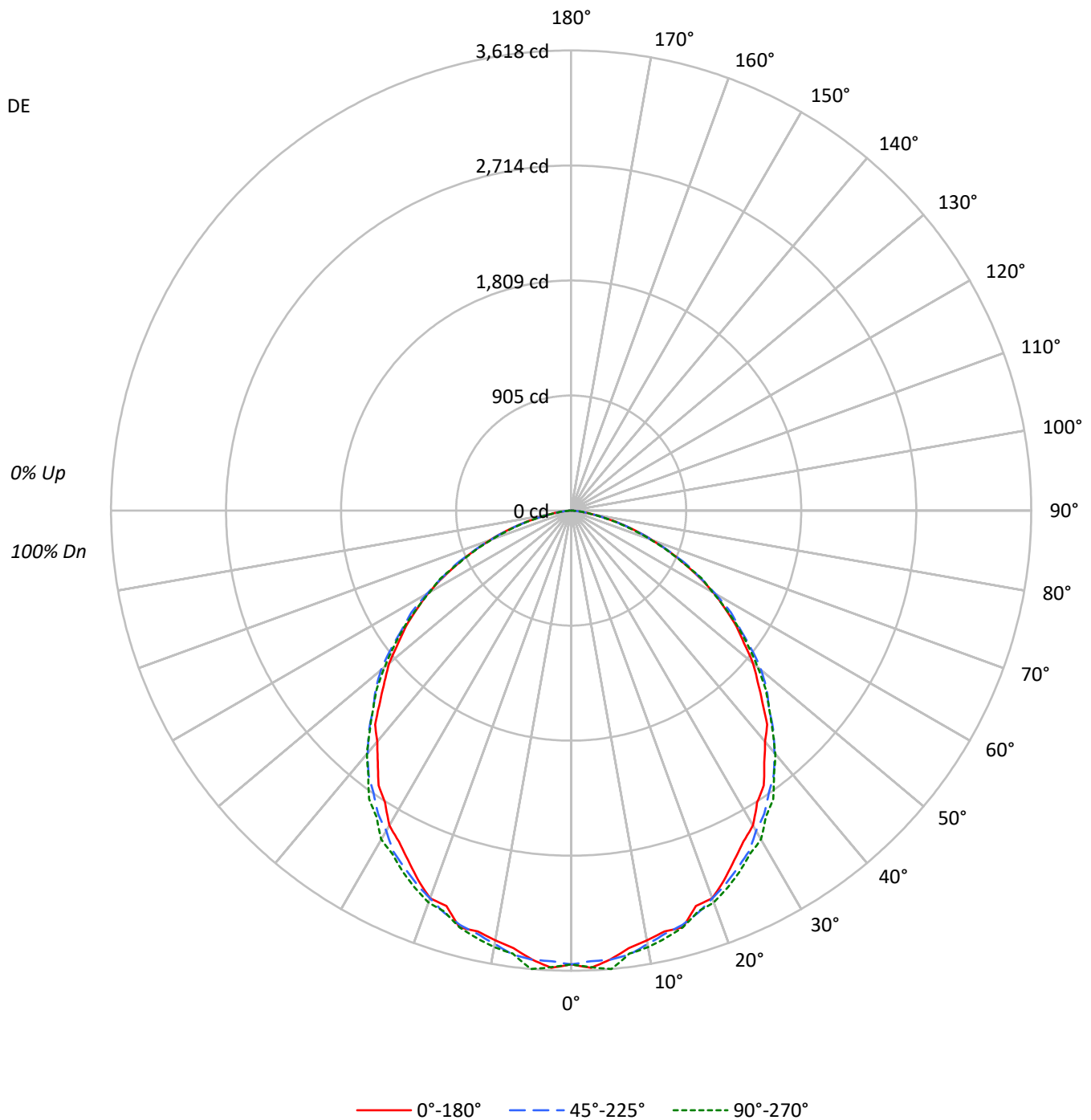
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									70									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°	9601	9601	9601
5°	9569	9573	9775
10°	9375	9457	9524
15°	9449	9398	9451
20°	9290	9290	9389
25°	9004	9201	9302
30°	8880	9036	9277
35°	8671	8898	9098
40°	8334	8735	8774
45°	8082	8369	8381
50°	7816	8169	8013
55°	7447	7592	7538
60°	6964	7034	6907
65°	6209	6368	6166
70°	5328	5346	5198
75°	4219	4210	4048
80°	2827	2749	2641
85°	1538	1522	1423

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8585 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.6	3.7
10°-20°	951.1	10.6
20°-30°	1425.0	15.8
30°-40°	1688.9	18.8
40°-50°	1692.0	18.8
50°-60°	1436.3	16.0
60°-70°	968.3	10.8
70°-80°	425.5	4.7
80°-90°	69.1	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°	2711.8	30.2
0°-40°	4400.7	48.9
0°-60°	7529.0	83.7
0°-90°	8992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8992.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3568	3568	3568	3568	3568	
5°	3542	3534	3544	3533	3618	334
15°	3392	3353	3373	3391	3392	945
25°	3032	3049	3099	3139	3133	1402
35°	2640	2647	2709	2771	2770	1639
45°	2124	2163	2199	2256	2202	1643
55°	1587	1577	1618	1607	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°	3567.8	3567.8	3567.8	3567.8	3567.8
2.5°	3598.7	3571.5	3546.1	3575.6	3593.6
5°	3542.5	3534.2	3543.8	3533.2	3618.5
7.5°	3469.7	3501.5	3519.9	3508.4	3513.4
10°	3431.0	3419.9	3460.9	3489.5	3485.3
12.5°	3389.5	3406.1	3408.4	3439.3	3442.0
15°	3391.8	3352.7	3373.4	3390.9	3392.3
17.5°	3260.1	3302.5	3316.7	3356.8	3307.1
20°	3244.0	3213.1	3244.0	3285.0	3278.5
22.5°	3144.9	3110.4	3176.7	3213.1	3210.8
25°	3032.5	3049.1	3098.8	3139.4	3132.9
27.5°	2933.9	2953.3	3024.2	3080.0	3044.0
30°	2857.9	2848.3	2908.1	2957.9	2985.5
32.5°	2722.0	2757.0	2827.1	2876.4	2850.1
35°	2639.6	2647.4	2708.7	2771.3	2769.5
37.5°	2495.4	2531.8	2617.9	2635.4	2619.3
40°	2372.4	2408.8	2486.6	2505.5	2497.7
42.5°	2281.6	2288.1	2354.9	2376.5	2342.0
45°	2123.6	2163.3	2199.2	2255.8	2202.4
47.5°	1989.1	2007.5	2084.9	2100.1	2072.0
50°	1867.0	1873.5	1951.3	1932.5	1914.0
52.5°	1713.6	1740.8	1784.6	1780.9	1759.3
55°	1587.4	1576.8	1618.3	1607.2	1606.8
57.5°	1435.9	1454.3	1488.4	1470.9	1442.8
60°	1294.0	1294.4	1306.9	1287.1	1283.4
62.5°	1136.0	1141.5	1144.3	1119.9	1159.5
65°	975.2	962.3	1000.1	961.9	968.3
67.5°	827.3	833.8	830.1	806.2	815.4
70°	677.2	685.5	679.5	652.3	660.6
72.5°	539.9	529.8	536.2	502.1	517.8
75°	405.8	397.5	404.9	376.4	389.3
77.5°	276.4	282.8	278.2	263.0	271.8
80°	182.4	177.4	177.4	168.6	170.4
82.5°	106.4	101.3	100.0	97.2	101.3
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)