

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: P590719

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590719
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-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8813.0 lumens
Efficiency: N/A
Efficacy: 102.0 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

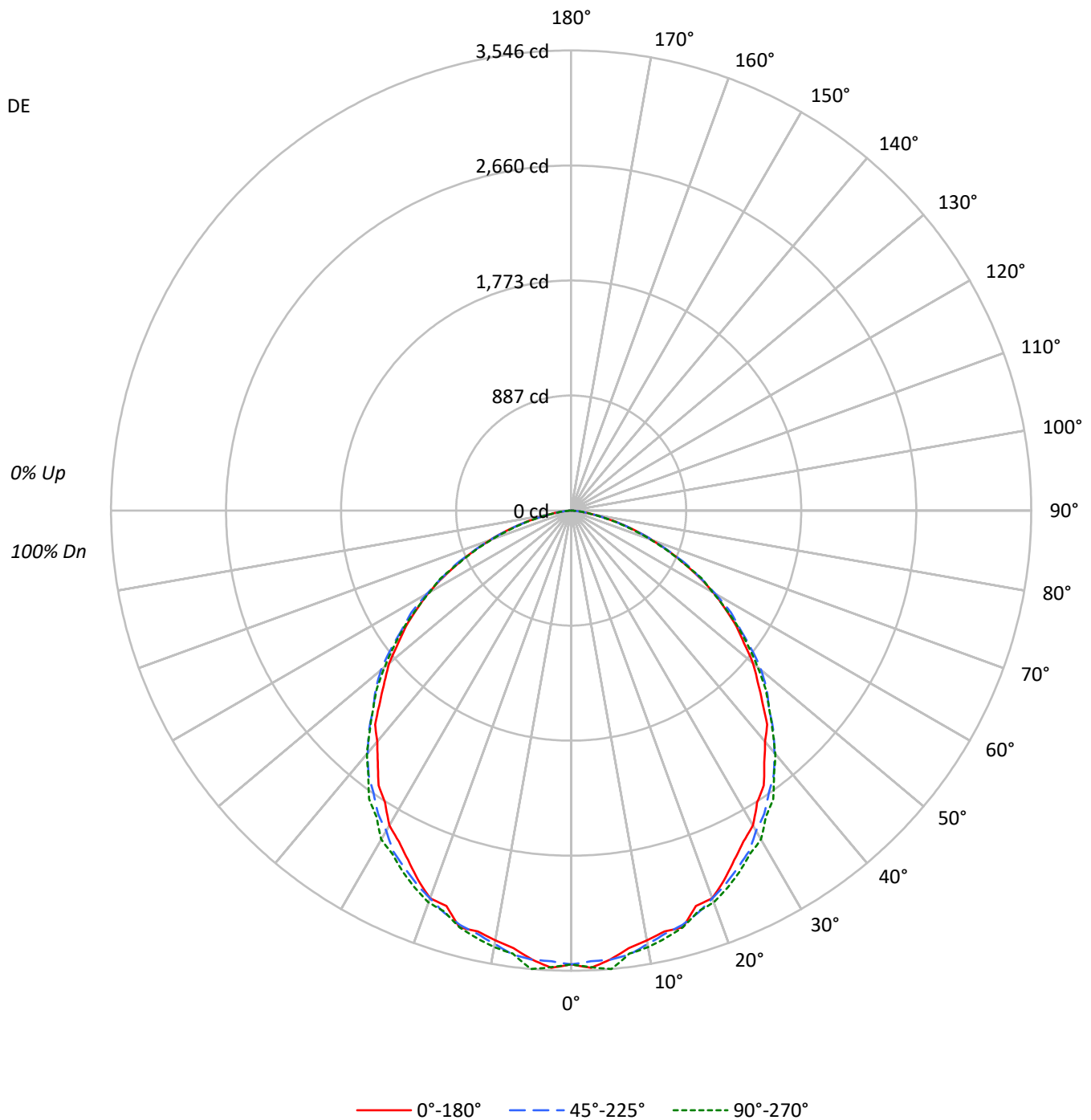
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	9410	9410	9410
5°	9378	9382	9580
10°	9189	9269	9334
15°	9261	9211	9263
20°	9105	9105	9202
25°	8825	9018	9117
30°	8703	8856	9092
35°	8498	8721	8917
40°	8168	8561	8599
45°	7921	8203	8215
50°	7661	8007	7853
55°	7299	7441	7388
60°	6825	6894	6769
65°	6086	6241	6043
70°	5222	5239	5094
75°	4136	4127	3967
80°	2771	2693	2590
85°	1507	1491	1392

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8414 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.9	3.7
10°-20°	932.2	10.6
20°-30°	1396.6	15.8
30°-40°	1655.3	18.8
40°-50°	1658.4	18.8
50°-60°	1407.7	16.0
60°-70°	949.1	10.8
70°-80°	417.0	4.7
80°-90°	67.8	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°	2657.8	30.2
0°-40°	4313.1	48.9
0°-60°	7379.1	83.7
0°-90°	8813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3497	3497	3497	3497	3497	
5°	3472	3464	3473	3463	3546	327
15°	3324	3286	3306	3323	3325	926
25°	2972	2988	3037	3077	3071	1374
35°	2587	2595	2655	2716	2714	1606
45°	2081	2120	2155	2211	2159	1610
55°	1556	1545	1586	1575	1575	1384
65°	956	943	980	943	949	951
75°	398	390	397	369	382	426
85°	49	47	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°	3496.8	3496.8	3496.8	3496.8	3496.8
2.5°	3527.0	3500.4	3475.6	3504.5	3522.1
5°	3471.9	3463.8	3473.3	3462.9	3546.4
7.5°	3400.6	3431.8	3449.8	3438.5	3443.5
10°	3362.7	3351.8	3392.0	3420.0	3416.0
12.5°	3322.0	3338.3	3340.6	3370.8	3373.5
15°	3324.3	3285.9	3306.2	3323.4	3324.8
17.5°	3195.2	3236.7	3250.7	3290.0	3241.2
20°	3179.4	3149.1	3179.4	3219.6	3213.2
22.5°	3082.3	3048.4	3113.5	3149.1	3146.9
25°	2972.1	2988.4	3037.2	3076.9	3070.6
27.5°	2875.5	2894.5	2964.0	3018.6	2983.4
30°	2801.0	2791.6	2850.2	2899.0	2926.1
32.5°	2667.8	2702.2	2770.8	2819.1	2793.4
35°	2587.0	2594.7	2654.8	2716.2	2714.3
37.5°	2445.7	2481.4	2565.8	2583.0	2567.2
40°	2325.2	2360.8	2437.1	2455.6	2448.0
42.5°	2236.2	2242.5	2308.0	2329.2	2295.4
45°	2081.4	2120.2	2155.4	2210.9	2158.6
47.5°	1949.5	1967.6	2043.4	2058.3	2030.8
50°	1829.9	1836.2	1912.5	1894.0	1875.9
52.5°	1679.5	1706.2	1749.1	1745.5	1724.2
55°	1555.8	1545.4	1586.1	1575.2	1574.8
57.5°	1407.3	1425.3	1458.8	1441.6	1414.1
60°	1268.2	1268.7	1280.9	1261.5	1257.8
62.5°	1113.4	1118.8	1121.5	1097.6	1136.4
65°	955.8	943.2	980.2	942.7	949.0
67.5°	810.9	817.2	813.6	790.1	799.1
70°	663.7	671.8	665.9	639.3	647.4
72.5°	529.1	519.2	525.5	492.1	507.5
75°	397.8	389.6	396.9	368.9	381.5
77.5°	270.9	277.2	272.7	257.8	266.4
80°	178.8	173.8	173.8	165.2	167.1
82.5°	104.3	99.3	98.0	95.3	99.3
85°	48.8	47.4	48.3	47.0	45.1
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)