

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: P590752

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590752
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-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8613.0 lumens
Efficiency: N/A
Efficacy: 99.7 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

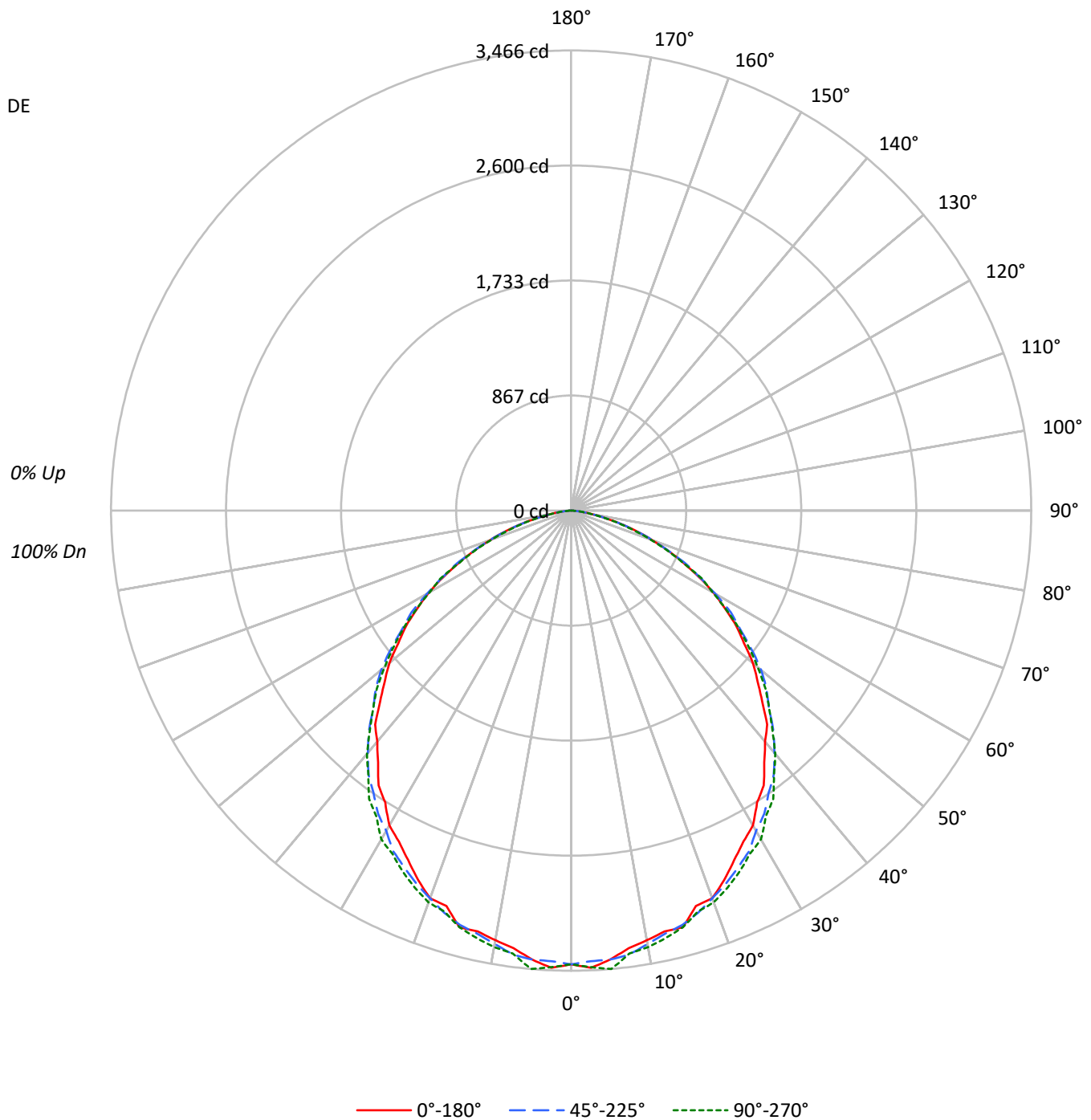
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9196	9196	9196
5°	9166	9169	9363
10°	8980	9058	9122
15°	9051	9002	9052
20°	8898	8898	8993
25°	8625	8813	8910
30°	8506	8656	8886
35°	8306	8523	8714
40°	7983	8367	8404
45°	7741	8017	8028
50°	7487	7825	7675
55°	7134	7272	7221
60°	6670	6737	6616
65°	5948	6099	5906
70°	5103	5120	4978
75°	4041	4033	3876
80°	2707	2633	2531
85°	1473	1457	1362

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8223 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.5	3.7
10°-20°	911.1	10.6
20°-30°	1365.0	15.8
30°-40°	1617.7	18.8
40°-50°	1620.7	18.8
50°-60°	1375.7	16.0
60°-70°	927.5	10.8
70°-80°	407.6	4.7
80°-90°	66.2	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°	2597.5	30.2
0°-40°	4215.2	48.9
0°-60°	7211.7	83.7
0°-90°	8613.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8613.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3417	3417	3417	3417	3417	
5°	3393	3385	3394	3384	3466	320
15°	3249	3211	3231	3248	3249	905
25°	2905	2921	2968	3007	3001	1343
35°	2528	2536	2594	2654	2653	1570
45°	2034	2072	2106	2161	2110	1574
55°	1520	1510	1550	1540	1539	1353
65°	934	922	958	921	928	929
75°	389	381	388	360	373	417
85°	48	46	47	46	44	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3417.4	3417.4	3417.4	3417.4	3417.4
2.5°	3447.0	3421.0	3396.7	3424.9	3442.1
5°	3393.2	3385.2	3394.5	3384.3	3466.0
7.5°	3323.4	3353.9	3371.5	3360.5	3365.4
10°	3286.4	3275.8	3315.1	3342.4	3338.4
12.5°	3246.7	3262.5	3264.8	3294.3	3297.0
15°	3248.9	3211.4	3231.2	3248.0	3249.3
17.5°	3122.7	3163.3	3176.9	3215.3	3167.7
20°	3107.2	3077.7	3107.2	3146.5	3140.3
22.5°	3012.4	2979.3	3042.8	3077.7	3075.5
25°	2904.7	2920.6	2968.2	3007.1	3000.9
27.5°	2810.3	2828.8	2896.8	2950.1	2915.7
30°	2737.5	2728.2	2785.6	2833.2	2859.7
32.5°	2607.3	2640.8	2707.9	2755.1	2730.0
35°	2528.3	2535.8	2594.5	2654.5	2652.7
37.5°	2390.2	2425.1	2507.6	2524.3	2508.9
40°	2272.4	2307.3	2381.8	2399.9	2392.4
42.5°	2185.5	2191.7	2255.6	2276.4	2243.3
45°	2034.1	2072.1	2106.5	2160.8	2109.6
47.5°	1905.3	1922.9	1997.1	2011.6	1984.7
50°	1788.4	1794.5	1869.1	1851.0	1833.4
52.5°	1641.4	1667.5	1709.4	1705.8	1685.1
55°	1520.5	1510.4	1550.1	1539.5	1539.1
57.5°	1375.4	1393.0	1425.7	1408.9	1382.0
60°	1239.4	1239.9	1251.8	1232.8	1229.3
62.5°	1088.1	1093.4	1096.0	1072.7	1110.6
65°	934.1	921.8	957.9	921.3	927.5
67.5°	792.5	798.6	795.1	772.2	781.0
70°	648.6	656.6	650.8	624.8	632.7
72.5°	517.1	507.4	513.6	481.0	496.0
75°	388.7	380.8	387.9	360.5	372.8
77.5°	264.7	270.9	266.5	251.9	260.3
80°	174.7	169.9	169.9	161.5	163.3
82.5°	101.9	97.1	95.7	93.1	97.1
85°	47.7	46.3	47.2	45.9	44.1
87.5°	17.2	17.6	17.6	16.8	15.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)