

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: P590721

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-81-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590721  
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-81-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

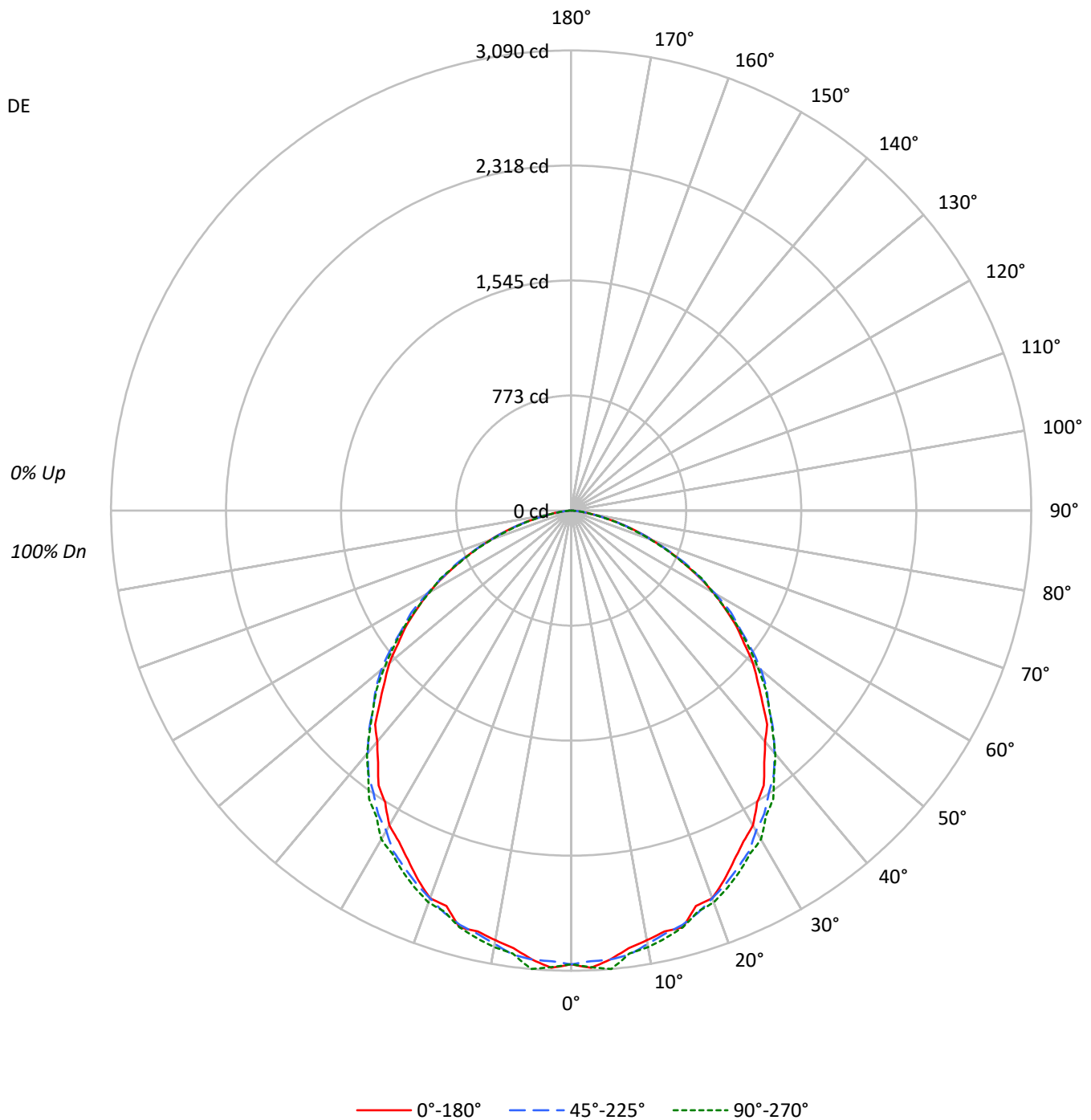
Lumens per Lamp: N/A  
Luminaire Lumens: 7679.0 lumens  
Efficiency: N/A  
Efficacy: 88.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
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°	8199	8199	8199
5°	8172	8175	8347
10°	8006	8076	8133
15°	8070	8026	8071
20°	7933	7933	8018
25°	7689	7858	7944
30°	7584	7717	7922
35°	7405	7599	7770
40°	7117	7459	7493
45°	6901	7147	7158
50°	6675	6976	6843
55°	6360	6484	6438
60°	5947	6007	5899
65°	5303	5438	5265
70°	4550	4566	4438
75°	3604	3595	3456
80°	2414	2348	2256
85°	1312	1300	1213

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7331 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.6	3.7
10°-20°	812.3	10.6
20°-30°	1216.9	15.8
30°-40°	1442.3	18.8
40°-50°	1445.0	18.8
50°-60°	1226.6	16.0
60°-70°	826.9	10.8
70°-80°	363.4	4.7
80°-90°	59.0	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°	2315.8	30.2
0°-40°	3758.1	48.9
0°-60°	6429.7	83.7
0°-90°	7679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7679.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3047	3047	3047	3047	3047	
5°	3025	3018	3026	3017	3090	285
15°	2897	2863	2881	2896	2897	807
25°	2590	2604	2646	2681	2676	1197
35°	2254	2261	2313	2367	2365	1400
45°	1814	1847	1878	1926	1881	1403
55°	1356	1347	1382	1373	1372	1206
65°	833	822	854	821	827	828
75°	347	340	346	321	332	371
85°	42	41	42	41	39	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3046.8	3046.8	3046.8	3046.8	3046.8
2.5°	3073.2	3050.0	3028.3	3053.5	3068.9
5°	3025.2	3018.1	3026.4	3017.3	3090.1
7.5°	2963.0	2990.2	3005.9	2996.1	3000.4
10°	2930.0	2920.6	2955.6	2980.0	2976.4
12.5°	2894.6	2908.8	2910.7	2937.1	2939.4
15°	2896.6	2863.1	2880.8	2895.8	2897.0
17.5°	2784.0	2820.2	2832.4	2866.7	2824.2
20°	2770.3	2743.9	2770.3	2805.3	2799.8
22.5°	2685.7	2656.2	2712.8	2743.9	2742.0
25°	2589.7	2603.9	2646.4	2681.0	2675.5
27.5°	2505.5	2522.0	2582.6	2630.2	2599.5
30°	2440.6	2432.4	2483.5	2526.0	2549.6
32.5°	2324.6	2354.5	2414.3	2456.3	2433.9
35°	2254.1	2260.8	2313.2	2366.7	2365.1
37.5°	2131.0	2162.1	2235.7	2250.6	2236.8
40°	2026.0	2057.1	2123.5	2139.7	2133.0
42.5°	1948.5	1954.0	2011.0	2029.5	2000.0
45°	1813.5	1847.4	1878.1	1926.4	1880.8
47.5°	1698.7	1714.4	1780.5	1793.5	1769.5
50°	1594.4	1599.9	1666.4	1650.3	1634.6
52.5°	1463.4	1486.6	1524.0	1520.9	1502.4
55°	1355.6	1346.6	1382.0	1372.6	1372.2
57.5°	1226.2	1241.9	1271.1	1256.1	1232.1
60°	1105.0	1105.4	1116.1	1099.1	1096.0
62.5°	970.1	974.8	977.2	956.3	990.2
65°	832.8	821.8	854.1	821.4	826.9
67.5°	706.5	712.0	708.9	688.4	696.3
70°	578.3	585.4	580.3	557.0	564.1
72.5°	461.1	452.4	457.9	428.8	442.2
75°	346.6	339.5	345.8	321.4	332.4
77.5°	236.0	241.5	237.6	224.6	232.1
80°	155.8	151.5	151.5	144.0	145.6
82.5°	90.9	86.5	85.4	83.0	86.5
85°	42.5	41.3	42.1	40.9	39.3
87.5°	15.3	15.7	15.7	14.9	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)