

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: P590975

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-81-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590975  
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-LD4-4STD-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

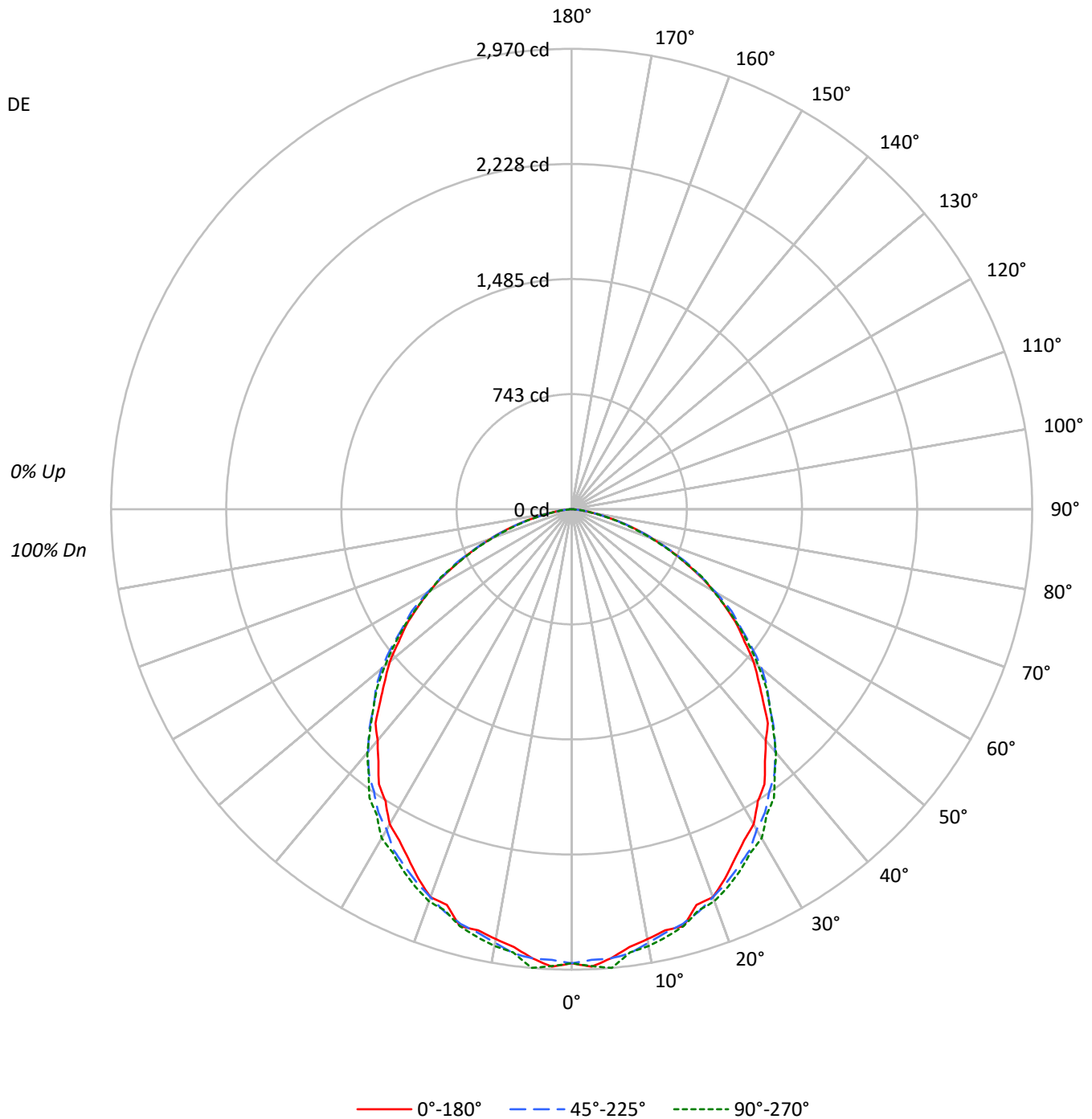
Lumens per Lamp: N/A  
Luminaire Lumens: 7380.0 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	7880	7880	7880
5°	7854	7857	8022
10°	7694	7762	7816
15°	7755	7713	7757
20°	7624	7624	7706
25°	7390	7551	7635
30°	7288	7416	7614
35°	7117	7303	7467
40°	6840	7169	7201
45°	6633	6869	6879
50°	6415	6705	6576
55°	6112	6231	6187
60°	5716	5773	5669
65°	5096	5226	5060
70°	4373	4388	4266
75°	3463	3455	3322
80°	2320	2256	2168
85°	1260	1250	1167

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7046 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.4	3.7
10°-20°	780.6	10.6
20°-30°	1169.6	15.8
30°-40°	1386.2	18.8
40°-50°	1388.7	18.8
50°-60°	1178.8	16.0
60°-70°	794.7	10.8
70°-80°	349.2	4.7
80°-90°	56.7	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°	2225.6	30.2
0°-40°	3611.8	48.9
0°-60°	6179.3	83.7
0°-90°	7380.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7380.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2928	2928	2928	2928	2928	
5°	2907	2901	2908	2900	2970	274
15°	2784	2752	2769	2783	2784	776
25°	2489	2502	2543	2577	2571	1151
35°	2166	2173	2223	2274	2273	1345
45°	1743	1775	1805	1851	1808	1348
55°	1303	1294	1328	1319	1319	1159
65°	800	790	821	789	795	796
75°	333	326	332	309	320	357
85°	41	40	40	39	38	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2928.2	2928.2	2928.2	2928.2	2928.2
2.5°	2953.5	2931.2	2910.4	2934.6	2949.4
5°	2907.4	2900.6	2908.5	2899.8	2969.8
7.5°	2847.7	2873.8	2888.9	2879.4	2883.6
10°	2815.9	2806.8	2840.5	2863.9	2860.5
12.5°	2781.9	2795.5	2797.4	2822.7	2825.0
15°	2783.8	2751.6	2768.6	2783.0	2784.2
17.5°	2675.6	2710.4	2722.1	2755.0	2714.2
20°	2662.4	2637.1	2662.4	2696.1	2690.8
22.5°	2581.1	2552.8	2607.2	2637.1	2635.2
25°	2488.9	2502.5	2543.3	2576.6	2571.3
27.5°	2408.0	2423.8	2482.1	2527.8	2498.3
30°	2345.6	2337.6	2386.8	2427.6	2450.3
32.5°	2234.1	2262.8	2320.3	2360.7	2339.2
35°	2166.4	2172.8	2223.1	2274.5	2273.0
37.5°	2048.0	2077.9	2148.6	2163.0	2149.7
40°	1947.1	1977.0	2040.9	2056.4	2049.9
42.5°	1872.6	1877.9	1932.7	1950.5	1922.1
45°	1742.9	1775.4	1804.9	1851.4	1807.6
47.5°	1632.5	1647.7	1711.2	1723.6	1700.6
50°	1532.3	1537.6	1601.5	1586.0	1570.9
52.5°	1406.4	1428.7	1464.7	1461.6	1443.9
55°	1302.8	1294.2	1328.2	1319.1	1318.7
57.5°	1178.5	1193.6	1221.6	1207.2	1184.1
60°	1062.0	1062.4	1072.6	1056.3	1053.3
62.5°	932.3	936.9	939.1	919.1	951.6
65°	800.4	789.8	820.8	789.4	794.7
67.5°	679.0	684.3	681.3	661.6	669.2
70°	555.8	562.6	557.7	535.4	542.2
72.5°	443.1	434.8	440.1	412.1	425.0
75°	333.1	326.3	332.3	308.9	319.5
77.5°	226.8	232.1	228.4	215.9	223.1
80°	149.7	145.6	145.6	138.4	139.9
82.5°	87.3	83.2	82.0	79.8	83.2
85°	40.8	39.7	40.5	39.3	37.8
87.5°	14.7	15.1	15.1	14.4	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)