

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: P561809

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561809  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-4-LD4-2STD-40-UNV-82-84-EDD  
Description: 1X4 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**

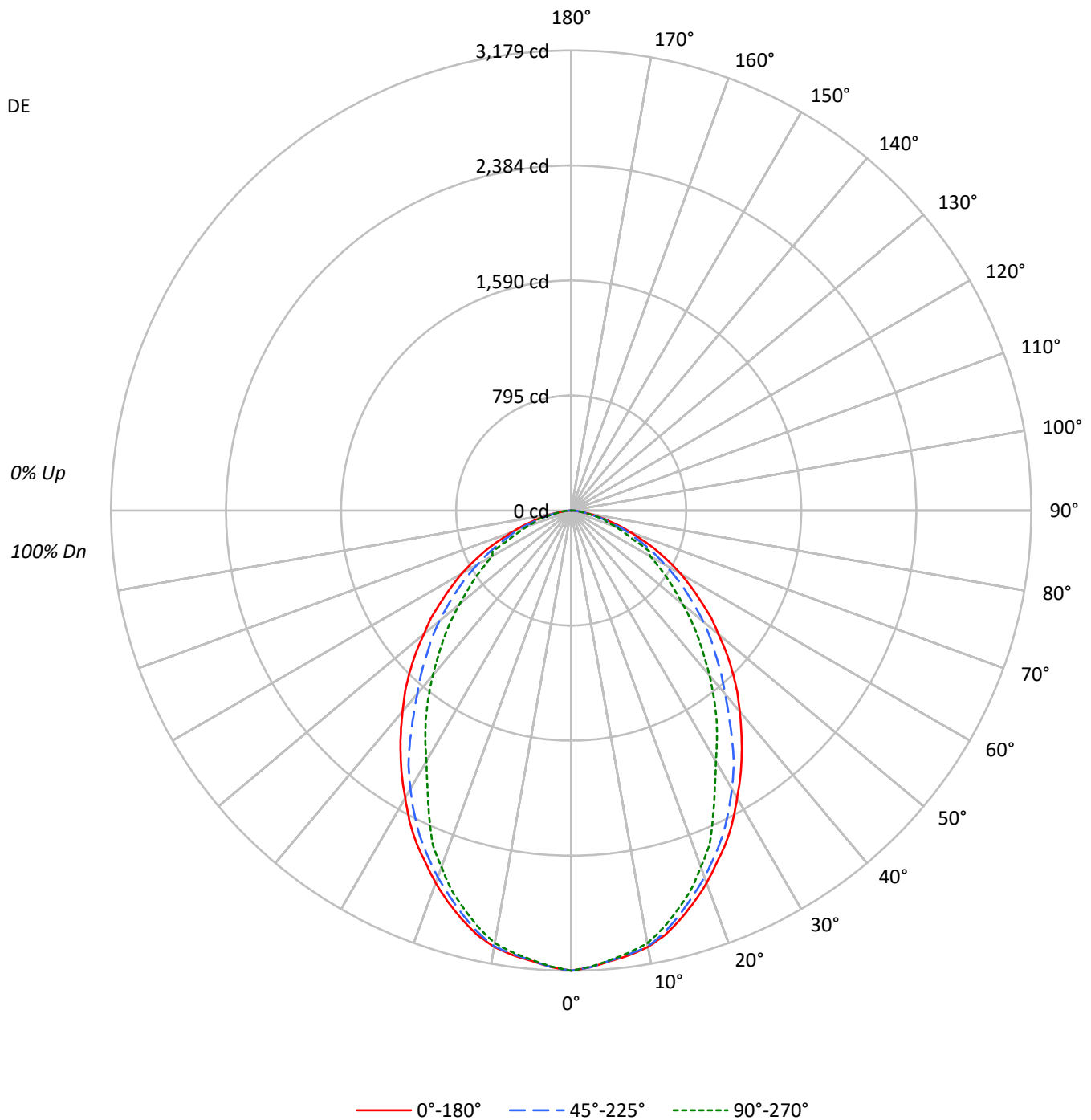
Lumens per Lamp: N/A  
Luminaire Lumens: 6240.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8554	8554	8554
5°	8437	8427	8417
10°	8364	8354	8294
15°	8138	8057	7944
20°	7840	7713	7503
25°	7517	7354	6896
30°	7125	6897	6211
35°	6748	6374	5746
40°	6364	5809	5228
45°	5999	5370	4727
50°	5553	4984	4215
55°	5137	4517	3775
60°	4707	4034	3382
65°	4141	3533	2995
70°	3412	3094	2544
75°	2713	2368	2484
80°	1822	1708	1595
85°	1133	1362	1587

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5999 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.9	4.7
10°-20°	812.0	13.0
20°-30°	1124.2	18.0
30°-40°	1198.7	19.2
40°-50°	1093.6	17.5
50°-60°	856.7	13.7
60°-70°	558.4	8.9
70°-80°	247.4	4.0
80°-90°	53.1	0.9
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°	2232.1	35.8
0°-40°	3430.8	55.0
0°-60°	5381.1	86.2
0°-90°	6240.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6240.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3179	3179	3179	3179	3179	
5°	3124	3120	3120	3116	3116	296
15°	2921	2921	2892	2863	2852	821
25°	2532	2517	2477	2388	2322	1162
35°	2054	2039	1940	1793	1749	1284
45°	1576	1543	1411	1294	1242	1214
55°	1095	1062	963	849	805	982
65°	650	614	555	566	470	641
75°	261	242	228	217	239	280
85°	37	40	44	48	51	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3178.6	3178.6	3178.6	3178.6	3178.6
2.5°	3156.5	3156.5	3156.5	3152.9	3152.9
5°	3123.5	3119.8	3119.8	3116.1	3116.1
7.5°	3097.7	3094.1	3090.4	3086.7	3079.4
10°	3061.0	3061.0	3057.3	3038.9	3035.3
12.5°	3002.2	2998.5	2983.8	2958.1	2950.7
15°	2921.3	2921.3	2891.9	2862.6	2851.5
17.5°	2833.2	2829.5	2792.7	2763.3	2748.6
20°	2737.6	2730.3	2693.5	2645.7	2620.0
22.5°	2631.0	2631.0	2587.0	2524.5	2498.8
25°	2531.8	2517.1	2476.7	2388.5	2322.4
27.5°	2417.9	2395.9	2351.8	2226.8	2149.7
30°	2293.0	2282.0	2219.5	2057.8	1999.0
32.5°	2175.4	2157.0	2090.9	1921.8	1874.1
35°	2054.1	2039.4	1940.2	1793.2	1749.1
37.5°	1932.9	1914.5	1789.6	1672.0	1616.8
40°	1811.6	1789.6	1653.6	1547.0	1488.2
42.5°	1697.7	1668.3	1536.0	1422.1	1355.9
45°	1576.4	1543.4	1411.1	1293.5	1242.0
47.5°	1455.2	1425.8	1304.5	1183.2	1124.4
50°	1326.5	1300.8	1190.6	1069.3	1006.9
52.5°	1220.0	1179.6	1073.0	951.7	900.3
55°	1095.0	1062.0	962.8	848.8	804.7
57.5°	981.1	948.1	856.2	749.6	712.9
60°	874.6	826.8	749.6	657.8	628.4
62.5°	757.0	720.2	654.1	576.9	613.7
65°	650.4	613.7	554.9	565.9	470.4
67.5°	532.8	514.5	463.0	411.6	396.9
70°	433.6	411.6	393.2	338.1	323.4
72.5°	345.4	323.4	297.6	268.2	257.2
75°	260.9	242.5	227.8	216.8	238.9
77.5°	180.1	172.7	161.7	150.7	147.0
80°	117.6	113.9	110.2	106.6	102.9
82.5°	69.8	69.8	69.8	69.8	69.8
85°	36.7	40.4	44.1	47.8	51.4
87.5°	22.0	22.0	25.7	29.4	33.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)