

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: P562787

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562787  
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-24-4-LD4-2LO-40-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

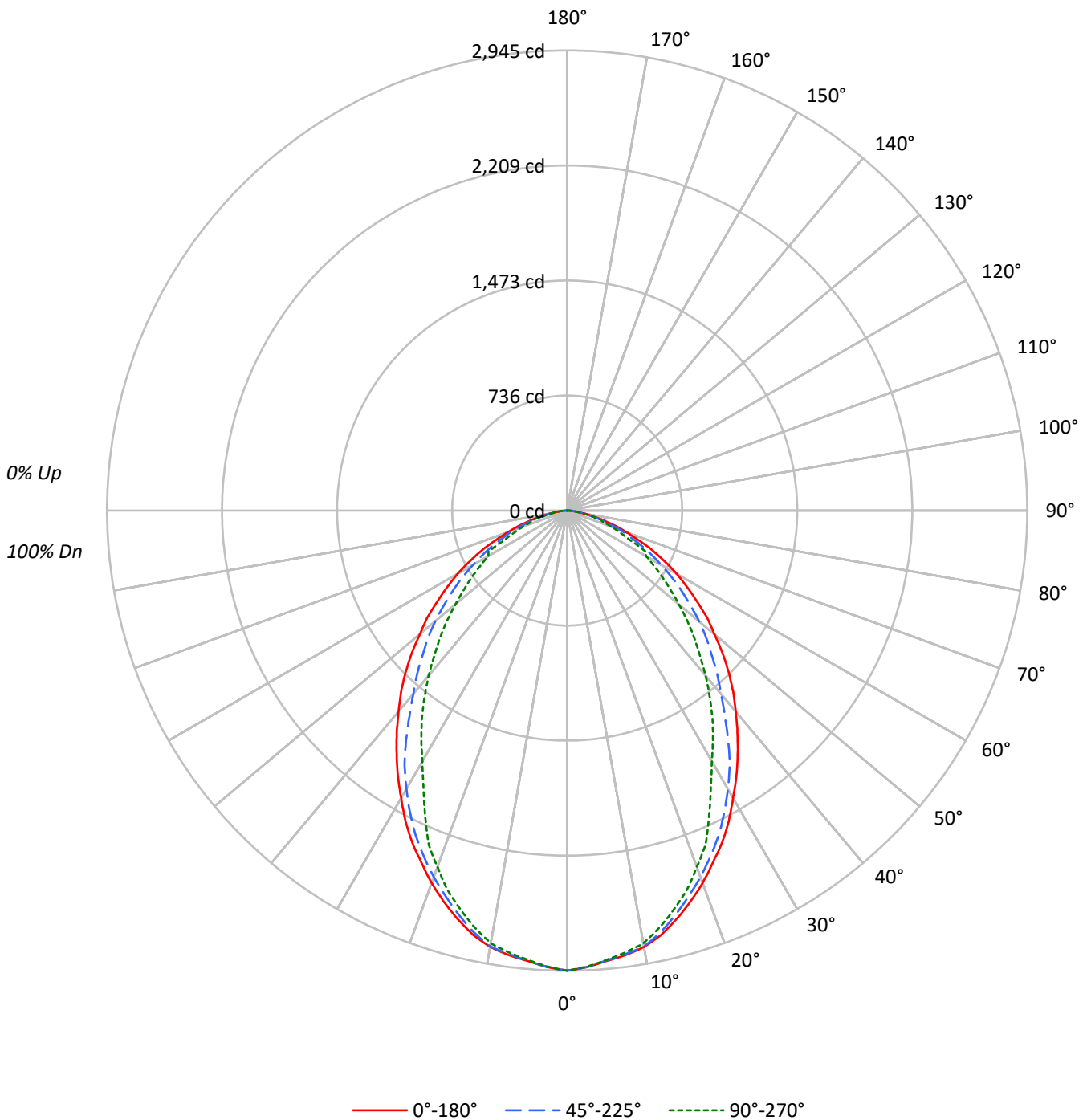
Lumens per Lamp: N/A  
Luminaire Lumens: 5781.0 lumens  
Efficiency: N/A  
Efficacy: 123.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

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

	0°	45°	90°
0°	3962	3962	3962
5°	3908	3904	3899
10°	3874	3870	3842
15°	3770	3732	3680
20°	3631	3573	3476
25°	3482	3406	3194
30°	3300	3195	2877
35°	3126	2952	2662
40°	2948	2691	2422
45°	2779	2488	2190
50°	2573	2309	1953
55°	2380	2092	1749
60°	2180	1869	1566
65°	1918	1637	1387
70°	1580	1433	1179
75°	1256	1097	1150
80°	844	791	738
85°	525	631	736

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2779 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.1	4.7
10°-20°	752.3	13.0
20°-30°	1041.5	18.0
30°-40°	1110.5	19.2
40°-50°	1013.1	17.5
50°-60°	793.7	13.7
60°-70°	517.3	8.9
70°-80°	229.2	4.0
80°-90°	49.2	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°	2067.9	35.8
0°-40°	3178.5	55.0
0°-60°	4985.3	86.2
0°-90°	5781.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5781.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2945	2945	2945	2945	2945	
5°	2894	2890	2890	2887	2887	275
15°	2706	2706	2679	2652	2642	761
25°	2346	2332	2294	2213	2152	1077
35°	1903	1889	1798	1661	1620	1190
45°	1460	1430	1307	1198	1151	1125
55°	1014	984	892	786	746	910
65°	603	568	514	524	436	594
75°	242	225	211	201	221	259
85°	34	37	41	44	48	47
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2944.8	2944.8	2944.8	2944.8	2944.8
2.5°	2924.3	2924.3	2924.3	2920.9	2920.9
5°	2893.7	2890.3	2890.3	2886.9	2886.9
7.5°	2869.9	2866.5	2863.1	2859.7	2852.8
10°	2835.8	2835.8	2832.4	2815.4	2812.0
12.5°	2781.4	2778.0	2764.3	2740.5	2733.7
15°	2706.5	2706.5	2679.2	2652.0	2641.8
17.5°	2624.8	2621.4	2587.3	2560.1	2546.5
20°	2536.2	2529.4	2495.4	2451.1	2427.3
22.5°	2437.5	2437.5	2396.7	2338.8	2315.0
25°	2345.6	2332.0	2294.5	2212.8	2151.6
27.5°	2240.1	2219.6	2178.8	2063.0	1991.5
30°	2124.3	2114.1	2056.2	1906.4	1852.0
32.5°	2015.4	1998.4	1937.1	1780.5	1736.2
35°	1903.0	1889.4	1797.5	1661.3	1620.5
37.5°	1790.7	1773.7	1657.9	1549.0	1497.9
40°	1678.3	1657.9	1532.0	1433.2	1378.8
42.5°	1572.8	1545.6	1423.0	1317.5	1256.2
45°	1460.5	1429.8	1307.3	1198.3	1150.7
47.5°	1348.1	1320.9	1208.5	1096.2	1041.7
50°	1229.0	1205.1	1103.0	990.7	932.8
52.5°	1130.2	1092.8	994.1	881.7	834.1
55°	1014.5	983.9	891.9	786.4	745.6
57.5°	909.0	878.3	793.2	694.5	660.4
60°	810.2	766.0	694.5	609.4	582.1
62.5°	701.3	667.3	606.0	534.5	568.5
65°	602.6	568.5	514.1	524.3	435.8
67.5°	493.6	476.6	428.9	381.3	367.7
70°	401.7	381.3	364.3	313.2	299.6
72.5°	320.0	299.6	275.8	248.5	238.3
75°	241.7	224.7	211.1	200.9	221.3
77.5°	166.8	160.0	149.8	139.6	136.2
80°	108.9	105.5	102.1	98.7	95.3
82.5°	64.7	64.7	64.7	64.7	64.7
85°	34.0	37.4	40.9	44.3	47.7
87.5°	20.4	20.4	23.8	27.2	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)