

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: P562950

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562950  
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-LD4-2STD-40-UNV-81-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

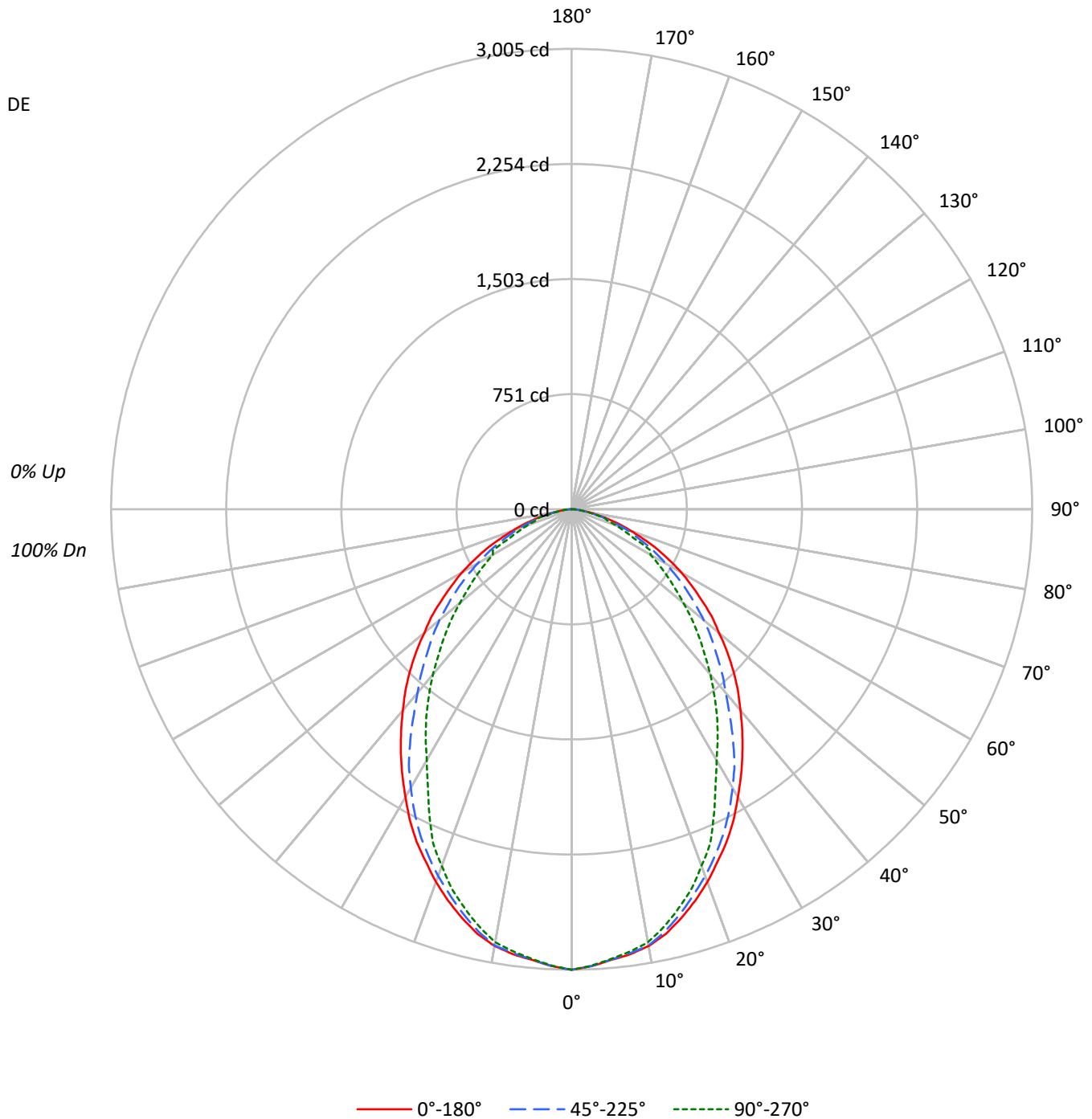
Lumens per Lamp: N/A  
Luminaire Lumens: 5900.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4044	4044	4044
5°	3989	3984	3979
10°	3954	3949	3921
15°	3848	3809	3756
20°	3706	3647	3547
25°	3554	3477	3260
30°	3368	3260	2937
35°	3190	3013	2716
40°	3009	2746	2471
45°	2836	2539	2235
50°	2626	2356	1993
55°	2429	2135	1785
60°	2225	1907	1599
65°	1958	1670	1416
70°	1613	1463	1203
75°	1282	1120	1174
80°	862	807	754
85°	536	644	750

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2836 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.8	4.7
10°-20°	767.8	13.0
20°-30°	1062.9	18.0
30°-40°	1133.4	19.2
40°-50°	1034.0	17.5
50°-60°	810.0	13.7
60°-70°	527.9	8.9
70°-80°	233.9	4.0
80°-90°	50.2	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°	2110.5	35.8
0°-40°	3243.9	55.0
0°-60°	5087.9	86.2
0°-90°	5900.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5900.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3005	3005	3005	3005	3005	
5°	2953	2950	2950	2946	2946	280
15°	2762	2762	2734	2707	2696	777
25°	2394	2380	2342	2258	2196	1099
35°	1942	1928	1834	1696	1654	1214
45°	1490	1459	1334	1223	1174	1148
55°	1035	1004	910	803	761	929
65°	615	580	525	535	445	606
75°	247	229	215	205	226	264
85°	35	38	42	45	49	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3005.4	3005.4	3005.4	3005.4	3005.4
2.5°	2984.5	2984.5	2984.5	2981.1	2981.1
5°	2953.3	2949.8	2949.8	2946.3	2946.3
7.5°	2928.9	2925.5	2922.0	2918.5	2911.6
10°	2894.2	2894.2	2890.7	2873.4	2869.9
12.5°	2838.6	2835.1	2821.2	2796.9	2790.0
15°	2762.2	2762.2	2734.4	2706.6	2696.2
17.5°	2678.8	2675.3	2640.6	2612.8	2598.9
20°	2588.4	2581.5	2546.8	2501.6	2477.3
22.5°	2487.7	2487.7	2446.0	2386.9	2362.6
25°	2393.9	2380.0	2341.8	2258.4	2195.8
27.5°	2286.2	2265.3	2223.6	2105.5	2032.5
30°	2168.0	2157.6	2098.6	1945.7	1890.1
32.5°	2056.9	2039.5	1977.0	1817.1	1772.0
35°	1942.2	1928.3	1834.5	1695.5	1653.8
37.5°	1827.5	1810.2	1692.0	1580.9	1528.7
40°	1712.9	1692.0	1563.5	1462.7	1407.1
42.5°	1605.2	1577.4	1452.3	1344.6	1282.1
45°	1490.5	1459.3	1334.2	1223.0	1174.4
47.5°	1375.9	1348.1	1233.4	1118.8	1063.2
50°	1254.3	1229.9	1125.7	1011.1	952.0
52.5°	1153.5	1115.3	1014.5	899.9	851.2
55°	1035.4	1004.1	910.3	802.6	760.9
57.5°	927.7	896.4	809.5	708.8	674.0
60°	826.9	781.7	708.8	621.9	594.1
62.5°	715.7	681.0	618.4	545.5	580.2
65°	615.0	580.2	524.6	535.1	444.7
67.5°	503.8	486.4	437.8	389.1	375.2
70°	410.0	389.1	371.8	319.6	305.7
72.5°	326.6	305.7	281.4	253.6	243.2
75°	246.7	229.3	215.4	205.0	225.8
77.5°	170.2	163.3	152.9	142.5	139.0
80°	111.2	107.7	104.2	100.8	97.3
82.5°	66.0	66.0	66.0	66.0	66.0
85°	34.7	38.2	41.7	45.2	48.6
87.5°	20.8	20.8	24.3	27.8	31.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)