

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: P562906

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-82-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562906  
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-35-UNV-82-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

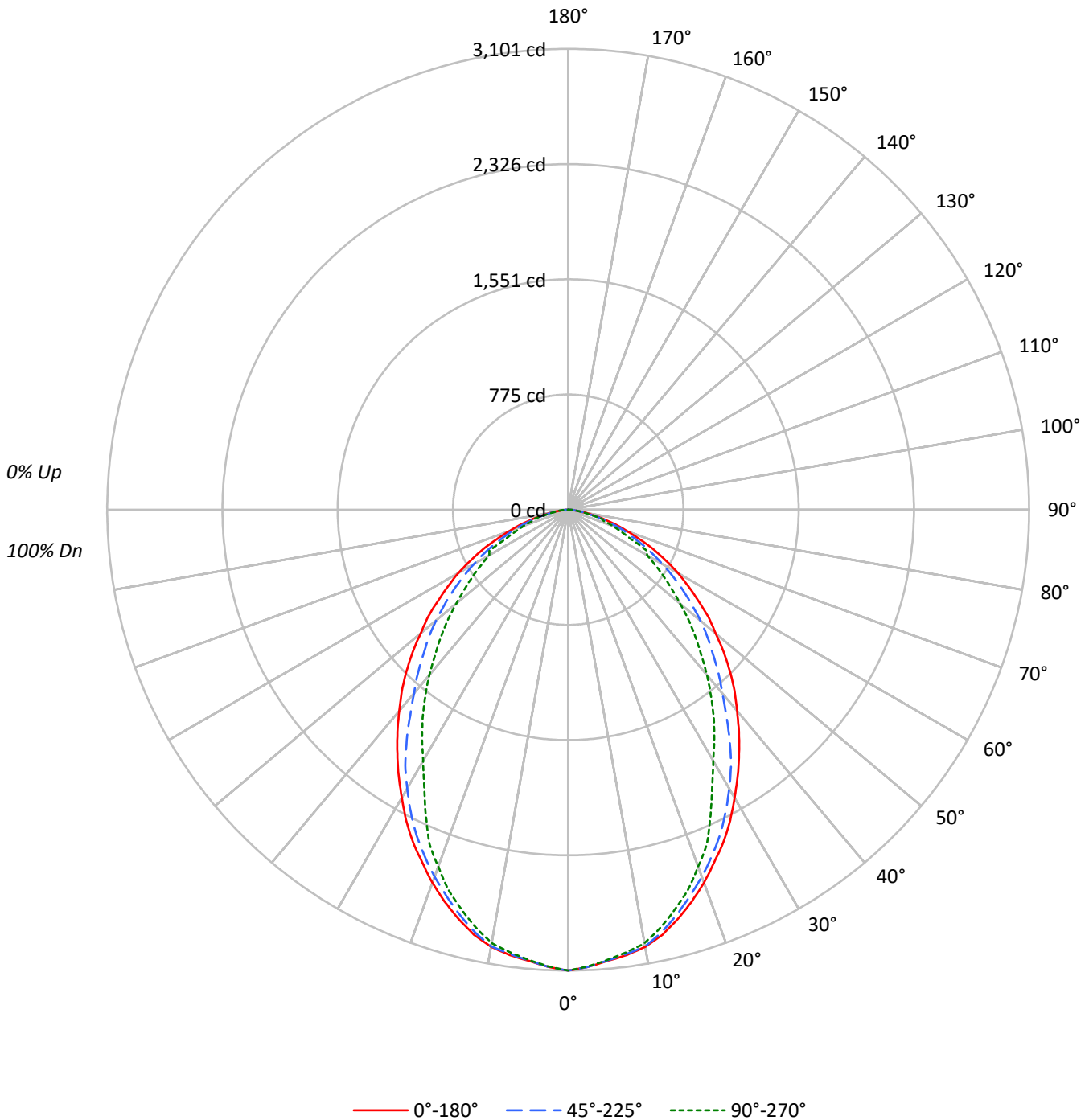
Lumens per Lamp: N/A  
Luminaire Lumens: 6088.0 lumens  
Efficiency: N/A  
Efficacy: 91.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4172	4172	4172
5°	4116	4111	4106
10°	4080	4075	4046
15°	3970	3930	3875
20°	3824	3763	3660
25°	3667	3587	3364
30°	3476	3364	3030
35°	3292	3109	2803
40°	3104	2834	2550
45°	2927	2620	2306
50°	2709	2431	2056
55°	2506	2203	1842
60°	2296	1968	1650
65°	2020	1724	1461
70°	1664	1509	1241
75°	1323	1156	1211
80°	889	834	778
85°	554	664	775

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2927 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.7	4.7
10°-20°	792.2	13.0
20°-30°	1096.8	18.0
30°-40°	1169.5	19.2
40°-50°	1066.9	17.5
50°-60°	835.9	13.7
60°-70°	544.8	8.9
70°-80°	241.4	4.0
80°-90°	51.8	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°	2177.7	35.8
0°-40°	3347.2	55.0
0°-60°	5250.1	86.2
0°-90°	6088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6088.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3101	3101	3101	3101	3101	
5°	3047	3044	3044	3040	3040	289
15°	2850	2850	2822	2793	2782	801
25°	2470	2456	2416	2330	2266	1134
35°	2004	1990	1893	1750	1706	1253
45°	1538	1506	1377	1262	1212	1185
55°	1068	1036	939	828	785	958
65°	635	599	541	552	459	625
75°	254	237	222	212	233	273
85°	36	39	43	47	50	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3101.1	3101.1	3101.1	3101.1	3101.1
2.5°	3079.6	3079.6	3079.6	3076.0	3076.0
5°	3047.4	3043.8	3043.8	3040.2	3040.2
7.5°	3022.3	3018.7	3015.1	3011.5	3004.3
10°	2986.4	2986.4	2982.8	2964.9	2961.3
12.5°	2929.1	2925.5	2911.1	2886.0	2878.9
15°	2850.2	2850.2	2821.5	2792.8	2782.1
17.5°	2764.1	2760.6	2724.7	2696.0	2681.7
20°	2670.9	2663.8	2627.9	2581.3	2556.2
22.5°	2567.0	2567.0	2523.9	2463.0	2437.9
25°	2470.2	2455.8	2416.4	2330.3	2265.8
27.5°	2359.0	2337.5	2294.5	2172.6	2097.3
30°	2237.1	2226.4	2165.4	2007.7	1950.3
32.5°	2122.4	2104.5	2039.9	1875.0	1828.4
35°	2004.1	1989.8	1893.0	1749.5	1706.5
37.5°	1885.8	1867.9	1746.0	1631.2	1577.5
40°	1767.5	1746.0	1613.3	1509.3	1452.0
42.5°	1656.3	1627.7	1498.6	1387.4	1322.9
45°	1538.0	1505.8	1376.7	1262.0	1211.8
47.5°	1419.7	1391.0	1272.7	1154.4	1097.1
50°	1294.2	1269.1	1161.6	1043.3	982.3
52.5°	1190.3	1150.8	1046.9	928.6	878.4
55°	1068.4	1036.1	939.3	828.2	785.1
57.5°	957.2	925.0	835.3	731.4	695.5
60°	853.3	806.7	731.4	641.7	613.1
62.5°	738.5	702.7	638.2	562.9	598.7
65°	634.6	598.7	541.4	552.1	458.9
67.5°	519.8	501.9	451.7	401.5	387.2
70°	423.0	401.5	383.6	329.8	315.5
72.5°	337.0	315.5	290.4	261.7	251.0
75°	254.5	236.6	222.3	211.5	233.0
77.5°	175.7	168.5	157.7	147.0	143.4
80°	114.7	111.1	107.6	104.0	100.4
82.5°	68.1	68.1	68.1	68.1	68.1
85°	35.9	39.4	43.0	46.6	50.2
87.5°	21.5	21.5	25.1	28.7	32.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)