

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: P563260

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563260  
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-LD4-3LO-35-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

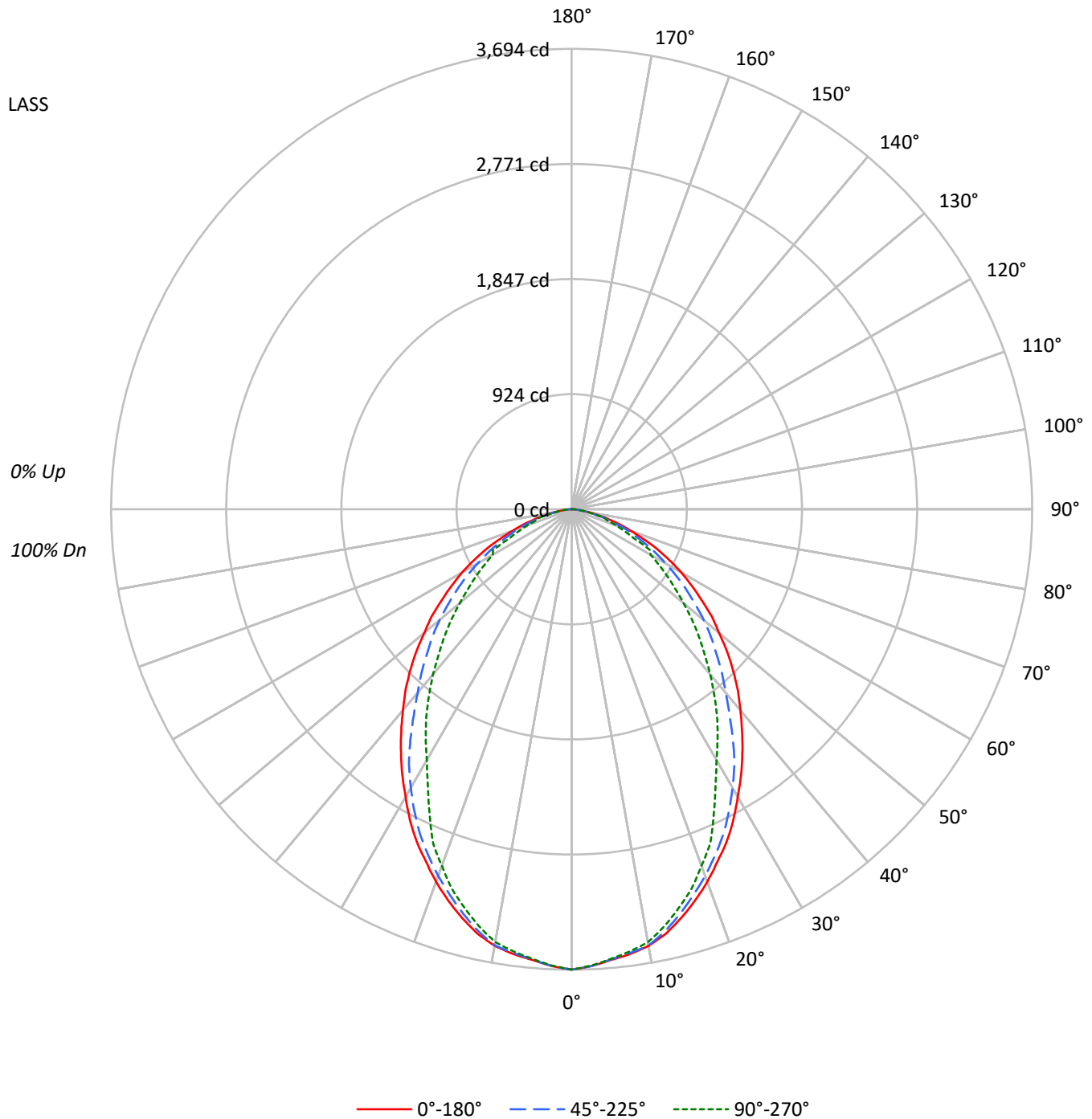
Lumens per Lamp: N/A  
Luminaire Lumens: 7251.0 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4970	4970	4970
5°	4902	4896	4891
10°	4860	4854	4819
15°	4729	4681	4616
20°	4555	4482	4359
25°	4368	4273	4006
30°	4140	4007	3609
35°	3921	3703	3338
40°	3697	3375	3038
45°	3486	3120	2746
50°	3227	2896	2449
55°	2985	2624	2194
60°	2735	2344	1965
65°	2406	2053	1740
70°	1982	1797	1478
75°	1576	1376	1443
80°	1058	993	927
85°	659	790	923

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3486 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	343.8	4.7
10°-20°	943.6	13.0
20°-30°	1306.3	18.0
30°-40°	1392.9	19.2
40°-50°	1270.8	17.5
50°-60°	995.5	13.7
60°-70°	648.8	8.9
70°-80°	287.5	4.0
80°-90°	61.7	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°	2593.7	35.8
0°-40°	3986.7	55.0
0°-60°	6253.0	86.2
0°-90°	7251.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7251.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3694	3694	3694	3694	3694	
5°	3630	3625	3625	3621	3621	345
15°	3395	3395	3360	3326	3314	954
25°	2942	2925	2878	2776	2699	1351
35°	2387	2370	2255	2084	2032	1492
45°	1832	1793	1640	1503	1443	1411
55°	1272	1234	1119	986	935	1141
65°	756	713	645	658	547	745
75°	303	282	265	252	278	325
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3693.6	3693.6	3693.6	3693.6	3693.6
2.5°	3667.9	3667.9	3667.9	3663.7	3663.7
5°	3629.5	3625.2	3625.2	3621.0	3621.0
7.5°	3599.6	3595.4	3591.1	3586.8	3578.3
10°	3556.9	3556.9	3552.7	3531.3	3527.0
12.5°	3488.6	3484.3	3467.3	3437.4	3428.8
15°	3394.7	3394.7	3360.5	3326.3	3313.5
17.5°	3292.2	3287.9	3245.2	3211.1	3194.0
20°	3181.2	3172.6	3129.9	3074.4	3044.5
22.5°	3057.3	3057.3	3006.1	2933.5	2903.6
25°	2942.0	2925.0	2878.0	2775.5	2698.6
27.5°	2809.7	2784.0	2732.8	2587.6	2498.0
30°	2664.5	2651.7	2579.1	2391.2	2322.9
32.5°	2527.8	2506.5	2429.6	2233.2	2177.7
35°	2386.9	2369.9	2254.6	2083.8	2032.5
37.5°	2246.0	2224.7	2079.5	1942.9	1878.8
40°	2105.1	2079.5	1921.5	1797.7	1729.4
42.5°	1972.7	1938.6	1784.9	1652.5	1575.6
45°	1831.8	1793.4	1639.7	1503.0	1443.3
47.5°	1690.9	1656.8	1515.9	1374.9	1306.6
50°	1541.5	1511.6	1383.5	1242.6	1170.0
52.5°	1417.6	1370.7	1246.8	1105.9	1046.2
55°	1272.5	1234.0	1118.7	986.4	935.1
57.5°	1140.1	1101.7	994.9	871.1	828.4
60°	1016.3	960.8	871.1	764.3	730.2
62.5°	879.6	836.9	760.1	670.4	713.1
65°	755.8	713.1	644.8	657.6	546.6
67.5°	619.2	597.8	538.0	478.2	461.2
70°	503.9	478.2	456.9	392.8	375.8
72.5°	401.4	375.8	345.9	311.7	298.9
75°	303.2	281.8	264.7	251.9	277.6
77.5°	209.2	200.7	187.9	175.1	170.8
80°	136.6	132.4	128.1	123.8	119.6
82.5°	81.1	81.1	81.1	81.1	81.1
85°	42.7	47.0	51.2	55.5	59.8
87.5°	25.6	25.6	29.9	34.2	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)