

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: P562490

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562490  
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-LD4-2HI-35-UNV-80-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

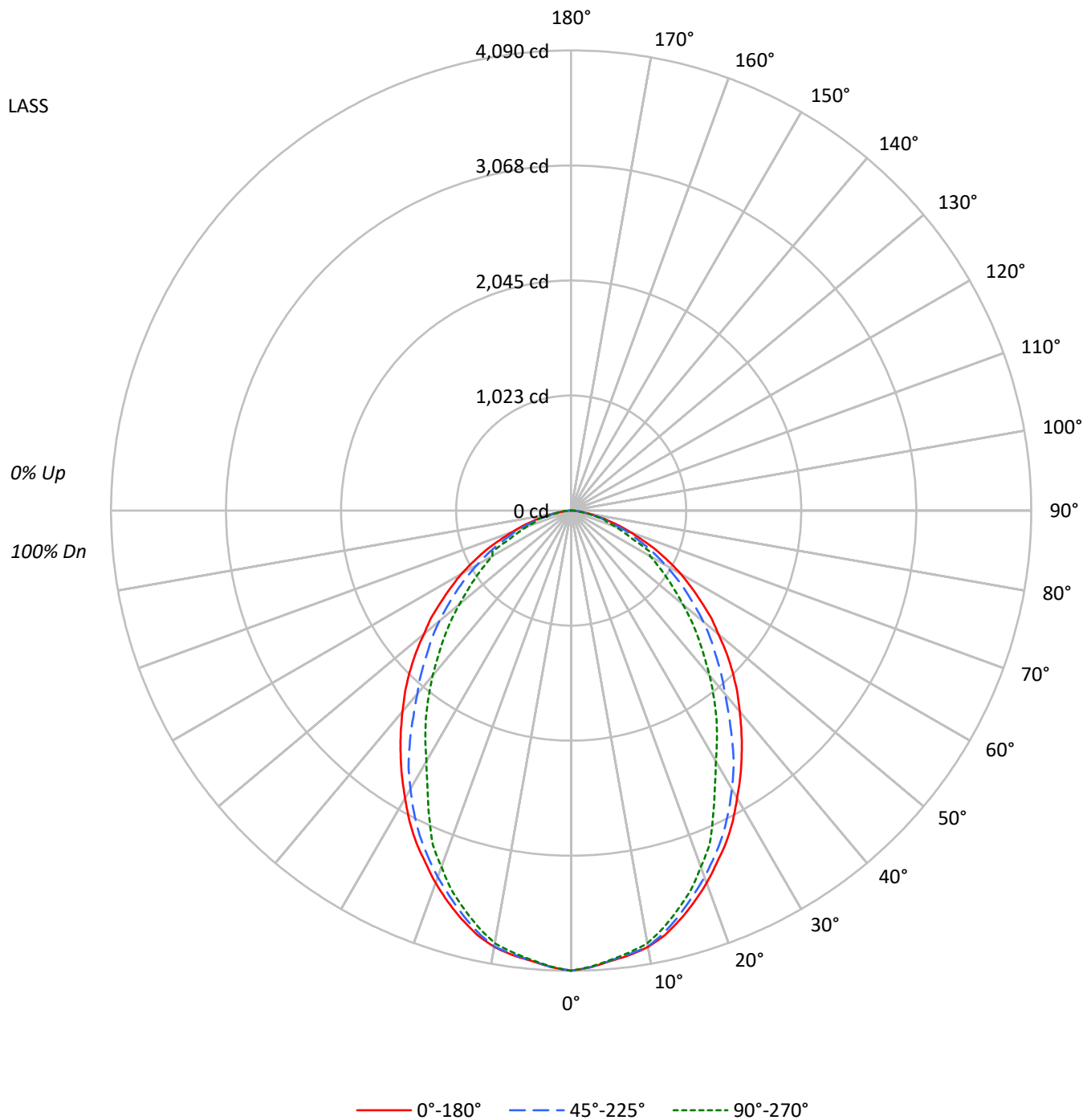
Lumens per Lamp: N/A  
Luminaire Lumens: 8029.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5503	5503	5503
5°	5428	5422	5415
10°	5381	5375	5336
15°	5236	5183	5111
20°	5044	4962	4827
25°	4836	4731	4436
30°	4584	4437	3996
35°	4341	4101	3697
40°	4094	3737	3363
45°	3860	3455	3041
50°	3573	3207	2712
55°	3305	2906	2429
60°	3028	2595	2176
65°	2664	2273	1927
70°	2195	1990	1637
75°	1745	1524	1598
80°	1172	1099	1026
85°	730	875	1022

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	380.7	4.7
10°-20°	1044.8	13.0
20°-30°	1446.5	18.0
30°-40°	1542.4	19.2
40°-50°	1407.1	17.5
50°-60°	1102.4	13.7
60°-70°	718.5	8.9
70°-80°	318.3	4.0
80°-90°	68.3	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°	2872.0	35.8
0°-40°	4414.4	55.0
0°-60°	6923.9	86.2
0°-90°	8029.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8029.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4090	4090	4090	4090	4090	
5°	4019	4014	4014	4010	4010	381
15°	3759	3759	3721	3683	3669	1057
25°	3258	3239	3187	3073	2988	1496
35°	2643	2624	2496	2307	2251	1652
45°	2028	1986	1816	1664	1598	1562
55°	1409	1366	1239	1092	1036	1264
65°	837	790	714	728	605	825
75°	336	312	293	279	307	360
85°	47	52	57	62	66	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4089.9	4089.9	4089.9	4089.9	4089.9
2.5°	4061.5	4061.5	4061.5	4056.8	4056.8
5°	4018.9	4014.2	4014.2	4009.5	4009.5
7.5°	3985.8	3981.1	3976.4	3971.7	3962.2
10°	3938.6	3938.6	3933.8	3910.2	3905.5
12.5°	3862.9	3858.2	3839.3	3806.2	3796.7
15°	3758.9	3758.9	3721.1	3683.2	3669.1
17.5°	3645.4	3640.7	3593.4	3555.6	3536.7
20°	3522.5	3513.0	3465.7	3404.3	3371.2
22.5°	3385.4	3385.4	3328.6	3248.3	3215.2
25°	3257.7	3238.8	3186.8	3073.3	2988.2
27.5°	3111.1	3082.8	3026.0	2865.3	2766.0
30°	2950.4	2936.2	2855.8	2647.8	2572.1
32.5°	2799.1	2775.4	2690.3	2472.8	2411.4
35°	2643.0	2624.1	2496.5	2307.3	2250.6
37.5°	2487.0	2463.4	2302.6	2151.3	2080.4
40°	2331.0	2302.6	2127.7	1990.6	1914.9
42.5°	2184.4	2146.6	1976.4	1829.8	1744.7
45°	2028.4	1985.8	1815.6	1664.3	1598.1
47.5°	1872.4	1834.5	1678.5	1522.5	1446.8
50°	1706.9	1673.8	1531.9	1375.9	1295.5
52.5°	1569.8	1517.7	1380.6	1224.6	1158.4
55°	1409.0	1366.4	1238.8	1092.2	1035.5
57.5°	1262.4	1219.9	1101.7	964.5	917.3
60°	1125.3	1063.8	964.5	846.3	808.5
62.5°	974.0	926.7	841.6	742.3	789.6
65°	836.9	789.6	714.0	728.1	605.2
67.5°	685.6	661.9	595.7	529.6	510.6
70°	557.9	529.6	505.9	435.0	416.1
72.5°	444.4	416.1	383.0	345.2	331.0
75°	335.7	312.1	293.1	279.0	307.3
77.5°	231.7	222.2	208.0	193.9	189.1
80°	151.3	146.6	141.8	137.1	132.4
82.5°	89.8	89.8	89.8	89.8	89.8
85°	47.3	52.0	56.7	61.5	66.2
87.5°	28.4	28.4	33.1	37.8	42.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)