

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: P563642

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563642  
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-LD4-4HI-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**

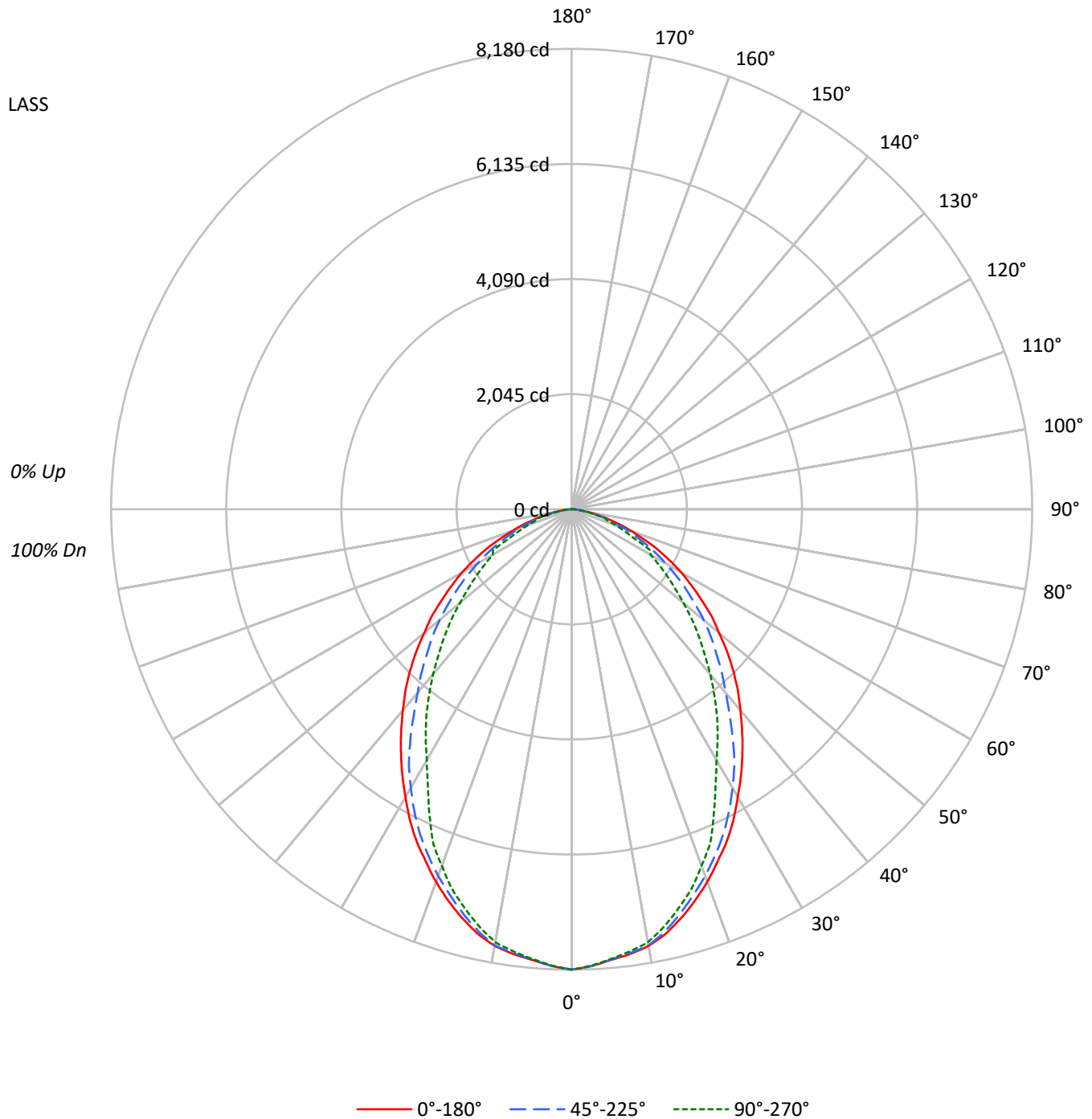
Lumens per Lamp: N/A  
Luminaire Lumens: 16058.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	11006	11006	11006
5°	10856	10843	10831
10°	10762	10749	10672
15°	10472	10366	10222
20°	10087	9925	9654
25°	9673	9462	8872
30°	9168	8874	7992
35°	8683	8201	7393
40°	8188	7474	6727
45°	7719	6909	6082
50°	7146	6413	5424
55°	6610	5812	4858
60°	6056	5191	4351
65°	5329	4546	3854
70°	4389	3980	3274
75°	3490	3048	3196
80°	2345	2198	2052
85°	1460	1752	2044

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7719 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	761.4	4.7
10°-20°	2089.7	13.0
20°-30°	2893.0	18.0
30°-40°	3084.8	19.2
40°-50°	2814.2	17.5
50°-60°	2204.7	13.7
60°-70°	1436.9	8.9
70°-80°	636.6	4.0
80°-90°	136.7	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°	5744.1	35.8
0°-40°	8828.9	55.0
0°-60°	13847.8	86.2
0°-90°	16058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16058.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8180	8180	8180	8180	8180	
5°	8038	8028	8028	8019	8019	763
15°	7518	7518	7442	7366	7338	2113
25°	6515	6478	6374	6147	5976	2991
35°	5286	5248	4993	4615	4501	3305
45°	4057	3972	3631	3329	3196	3125
55°	2818	2733	2478	2184	2071	2528
65°	1674	1579	1428	1456	1210	1650
75°	671	624	586	558	615	720
85°	95	104	114	123	132	131
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8179.7	8179.7	8179.7	8179.7	8179.7
2.5°	8123.0	8123.0	8123.0	8113.5	8113.5
5°	8037.9	8028.4	8028.4	8019.0	8019.0
7.5°	7971.7	7962.2	7952.8	7943.3	7924.4
10°	7877.1	7877.1	7867.7	7820.4	7810.9
12.5°	7725.8	7716.4	7678.5	7612.4	7593.4
15°	7517.8	7517.8	7442.1	7366.5	7338.1
17.5°	7290.8	7281.4	7186.8	7111.2	7073.3
20°	7045.0	7026.1	6931.5	6808.6	6742.4
22.5°	6770.7	6770.7	6657.3	6496.5	6430.3
25°	6515.4	6477.6	6373.6	6146.6	5976.4
27.5°	6222.3	6165.5	6052.1	5730.5	5532.0
30°	5900.8	5872.4	5711.6	5295.5	5144.2
32.5°	5598.2	5550.9	5380.7	4945.7	4822.7
35°	5286.1	5248.3	4992.9	4614.7	4501.2
37.5°	4974.0	4926.8	4605.2	4302.6	4160.8
40°	4662.0	4605.2	4255.4	3981.1	3829.8
42.5°	4368.8	4293.2	3952.7	3659.6	3489.4
45°	4056.8	3971.7	3631.2	3328.6	3196.2
47.5°	3744.7	3669.1	3357.0	3044.9	2893.6
50°	3413.7	3347.5	3063.9	2751.8	2591.0
52.5°	3139.5	3035.5	2761.3	2449.2	2316.8
55°	2818.0	2732.9	2477.6	2184.4	2070.9
57.5°	2524.8	2439.7	2203.3	1929.1	1834.5
60°	2250.6	2127.7	1929.1	1692.7	1617.0
62.5°	1948.0	1853.4	1683.2	1484.6	1579.2
65°	1673.8	1579.2	1427.9	1456.3	1210.4
67.5°	1371.2	1323.9	1191.5	1059.1	1021.3
70°	1115.8	1059.1	1011.8	870.0	832.2
72.5°	888.9	832.2	766.0	690.3	661.9
75°	671.4	624.1	586.3	557.9	614.7
77.5°	463.4	444.4	416.1	387.7	378.3
80°	302.6	293.1	283.7	274.2	264.8
82.5°	179.7	179.7	179.7	179.7	179.7
85°	94.6	104.0	113.5	122.9	132.4
87.5°	56.7	56.7	66.2	75.7	85.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)