

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: P563835

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563835  
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-LD4-4LO-35-UNV-80-94-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

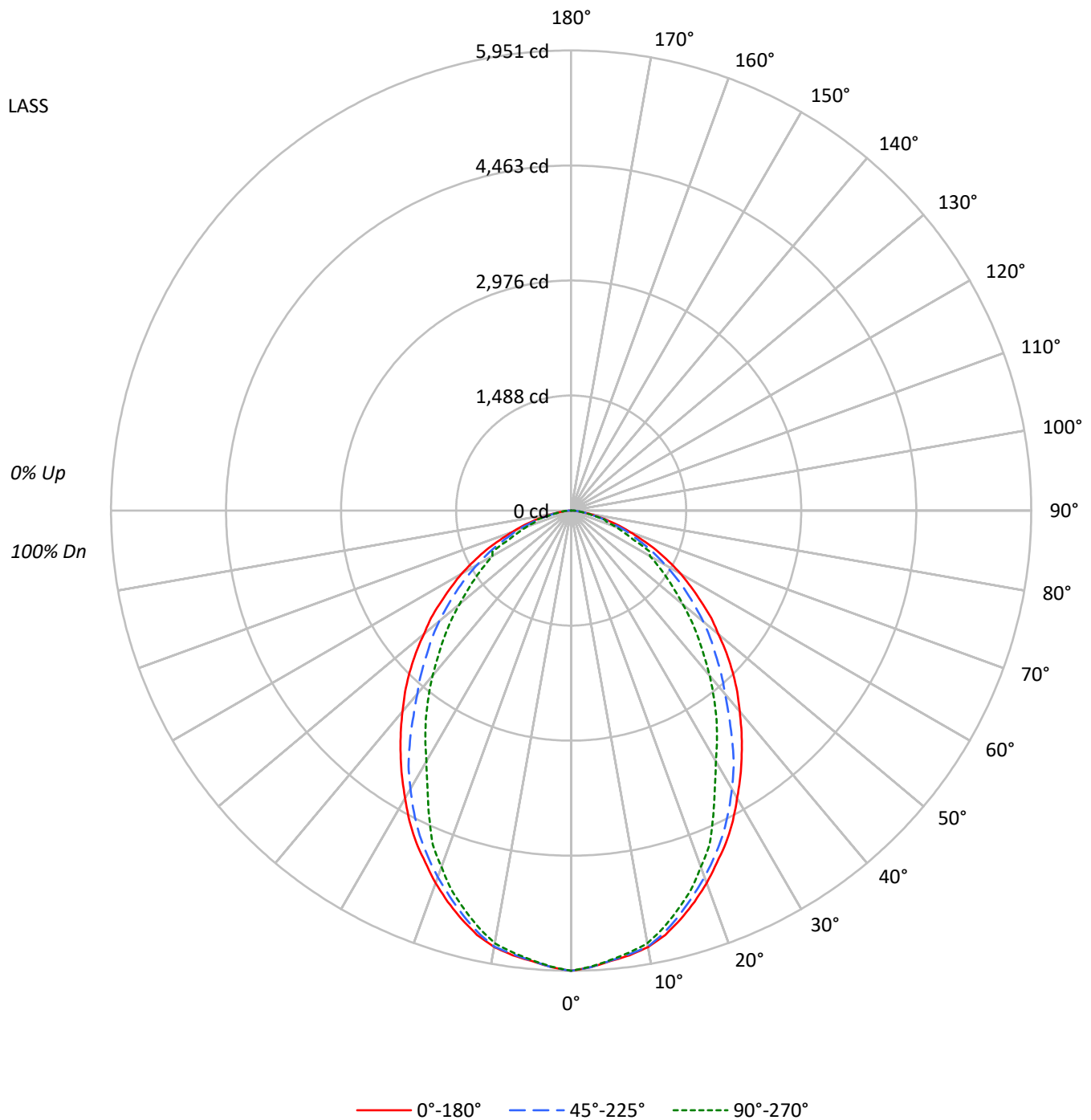
Lumens per Lamp: N/A  
Luminaire Lumens: 11683.0 lumens  
Efficiency: N/A  
Efficacy: 124.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8007	8007	8007
5°	7898	7889	7880
10°	7830	7821	7764
15°	7619	7542	7437
20°	7339	7221	7024
25°	7037	6884	6455
30°	6670	6456	5815
35°	6317	5967	5379
40°	5957	5438	4894
45°	5616	5027	4425
50°	5199	4666	3946
55°	4809	4228	3534
60°	4406	3777	3166
65°	3877	3308	2804
70°	3194	2896	2382
75°	2540	2218	2325
80°	1706	1599	1492
85°	1062	1275	1487

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5616 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	554.0	4.7
10°-20°	1520.3	13.0
20°-30°	2104.8	18.0
30°-40°	2244.3	19.2
40°-50°	2047.5	17.5
50°-60°	1604.0	13.7
60°-70°	1045.4	8.9
70°-80°	463.2	4.0
80°-90°	99.4	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°	4179.1	35.8
0°-40°	6423.4	55.0
0°-60°	10074.9	86.2
0°-90°	11683.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11683.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5951	5951	5951	5951	5951	
5°	5848	5841	5841	5834	5834	555
15°	5470	5470	5414	5360	5339	1538
25°	4740	4713	4637	4472	4348	2176
35°	3846	3818	3633	3357	3275	2404
45°	2952	2890	2642	2422	2325	2274
55°	2050	1988	1802	1589	1507	1839
65°	1218	1149	1039	1060	881	1200
75°	488	454	427	406	447	524
85°	69	76	83	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5951.2	5951.2	5951.2	5951.2	5951.2
2.5°	5909.9	5909.9	5909.9	5903.0	5903.0
5°	5848.0	5841.1	5841.1	5834.2	5834.2
7.5°	5799.8	5792.9	5786.0	5779.2	5765.4
10°	5731.0	5731.0	5724.1	5689.7	5682.8
12.5°	5620.9	5614.0	5586.5	5538.4	5524.6
15°	5469.6	5469.6	5414.5	5359.5	5338.8
17.5°	5304.4	5297.6	5228.8	5173.7	5146.2
20°	5125.6	5111.8	5043.0	4953.6	4905.4
22.5°	4926.1	4926.1	4843.5	4726.5	4678.4
25°	4740.3	4712.8	4637.1	4472.0	4348.1
27.5°	4527.0	4485.7	4403.2	4169.3	4024.8
30°	4293.1	4272.5	4155.5	3852.8	3742.7
32.5°	4072.9	4038.5	3914.7	3598.2	3508.8
35°	3845.9	3818.4	3632.6	3357.4	3274.9
37.5°	3618.9	3584.5	3350.5	3130.4	3027.2
40°	3391.8	3350.5	3096.0	2896.5	2786.4
42.5°	3178.5	3123.5	2875.8	2662.5	2538.7
45°	2951.5	2889.6	2641.9	2421.7	2325.4
47.5°	2724.5	2669.4	2442.4	2215.3	2105.3
50°	2483.7	2435.5	2229.1	2002.1	1885.1
52.5°	2284.1	2208.5	2008.9	1781.9	1685.6
55°	2050.2	1988.3	1802.5	1589.3	1506.7
57.5°	1836.9	1775.0	1603.0	1403.5	1334.7
60°	1637.4	1548.0	1403.5	1231.5	1176.5
62.5°	1417.3	1348.5	1224.6	1080.2	1149.0
65°	1217.8	1149.0	1038.9	1059.5	880.6
67.5°	997.6	963.2	866.9	770.6	743.0
70°	811.8	770.6	736.2	633.0	605.4
72.5°	646.7	605.4	557.3	502.2	481.6
75°	488.5	454.1	426.6	405.9	447.2
77.5°	337.1	323.4	302.7	282.1	275.2
80°	220.2	213.3	206.4	199.5	192.6
82.5°	130.7	130.7	130.7	130.7	130.7
85°	68.8	75.7	82.6	89.4	96.3
87.5°	41.3	41.3	48.2	55.0	61.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)