

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: P563125

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563125  
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-LD4-3HI-40-UNV-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

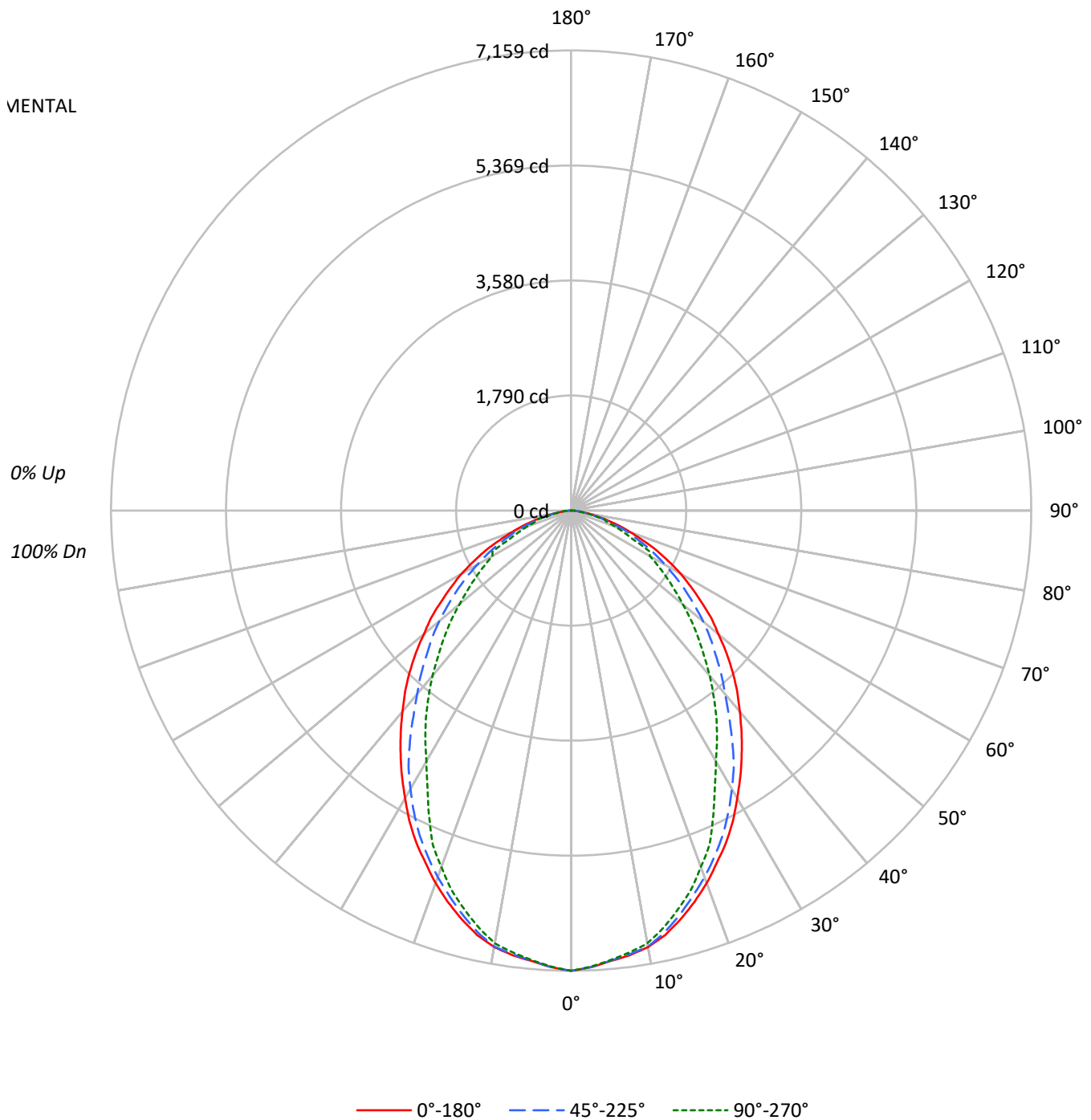
Lumens per Lamp: N/A  
Luminaire Lumens: 14055.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	9633	9633	9633
5°	9502	9491	9480
10°	9420	9408	9340
15°	9166	9073	8947
20°	8829	8687	8450
25°	8466	8282	7766
30°	8024	7767	6995
35°	7600	7178	6471
40°	7167	6542	5888
45°	6756	6048	5323
50°	6254	5613	4747
55°	5786	5087	4252
60°	5301	4544	3809
65°	4664	3979	3373
70°	3842	3484	2865
75°	3055	2668	2797
80°	2053	1924	1796
85°	1278	1533	1789

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6756 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	666.4	4.7
10°-20°	1829.0	13.0
20°-30°	2532.1	18.0
30°-40°	2700.0	19.2
40°-50°	2463.2	17.5
50°-60°	1929.7	13.7
60°-70°	1257.7	8.9
70°-80°	557.2	4.0
80°-90°	119.6	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°	5027.6	35.8
0°-40°	7727.6	55.0
0°-60°	12120.5	86.2
0°-90°	14055.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14055.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7159	7159	7159	7159	7159	
5°	7035	7027	7027	7019	7019	668
15°	6580	6580	6514	6448	6423	1850
25°	5703	5670	5579	5380	5231	2618
35°	4627	4594	4370	4039	3940	2893
45°	3551	3476	3178	2913	2798	2735
55°	2466	2392	2168	1912	1813	2212
65°	1465	1382	1250	1275	1059	1444
75°	588	546	513	488	538	630
85°	83	91	99	108	116	115
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7159.4	7159.4	7159.4	7159.4	7159.4
2.5°	7109.8	7109.8	7109.8	7101.5	7101.5
5°	7035.3	7027.0	7027.0	7018.7	7018.7
7.5°	6977.3	6969.1	6960.8	6952.5	6936.0
10°	6894.6	6894.6	6886.3	6844.9	6836.6
12.5°	6762.1	6753.9	6720.8	6662.8	6646.3
15°	6580.1	6580.1	6513.8	6447.6	6422.8
17.5°	6381.4	6373.1	6290.4	6224.2	6191.0
20°	6166.2	6149.7	6066.9	5959.3	5901.4
22.5°	5926.2	5926.2	5826.9	5686.2	5628.2
25°	5702.7	5669.6	5578.6	5379.9	5230.9
27.5°	5446.1	5396.5	5297.1	5015.7	4841.9
30°	5164.7	5139.9	4999.2	4635.0	4502.6
32.5°	4899.9	4858.5	4709.5	4328.8	4221.2
35°	4626.7	4593.6	4370.1	4039.1	3939.8
37.5°	4353.6	4312.2	4030.8	3765.9	3641.8
40°	4080.5	4030.8	3724.6	3484.5	3352.1
42.5°	3823.9	3757.7	3459.7	3203.1	3054.1
45°	3550.7	3476.3	3178.3	2913.4	2797.6
47.5°	3277.6	3211.4	2938.3	2665.1	2532.7
50°	2987.9	2930.0	2681.7	2408.5	2267.8
52.5°	2747.9	2656.9	2416.8	2143.7	2027.8
55°	2466.5	2392.0	2168.5	1911.9	1812.6
57.5°	2209.9	2135.4	1928.5	1688.5	1605.7
60°	1969.9	1862.3	1688.5	1481.5	1415.3
62.5°	1705.0	1622.3	1473.3	1299.5	1382.2
65°	1465.0	1382.2	1249.8	1274.6	1059.4
67.5°	1200.1	1158.8	1042.9	927.0	893.9
70°	976.7	927.0	885.6	761.5	728.4
72.5°	778.0	728.4	670.4	604.2	579.4
75°	587.7	546.3	513.2	488.3	538.0
77.5°	405.6	389.0	364.2	339.3	331.1
80°	264.9	256.6	248.3	240.0	231.8
82.5°	157.3	157.3	157.3	157.3	157.3
85°	82.8	91.0	99.3	107.6	115.9
87.5°	49.7	49.7	57.9	66.2	74.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)