

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: P563316

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563316  
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-40-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

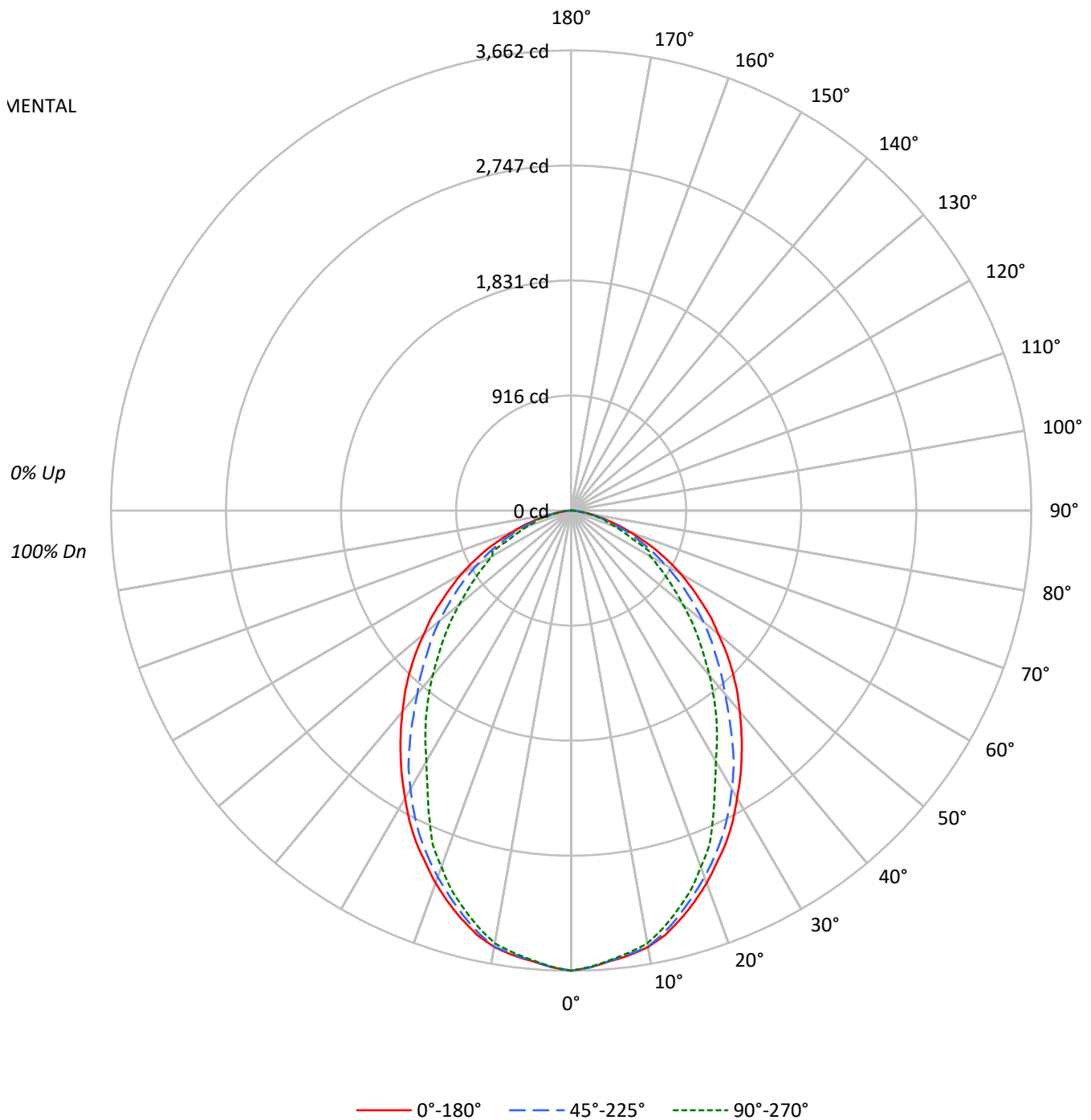
Lumens per Lamp: N/A  
Luminaire Lumens: 7189.0 lumens  
Efficiency: N/A  
Efficacy: 102.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4927	4927	4927
5°	4860	4854	4849
10°	4818	4812	4778
15°	4688	4641	4576
20°	4516	4443	4322
25°	4330	4236	3972
30°	4104	3973	3578
35°	3887	3672	3310
40°	3666	3346	3012
45°	3456	3093	2723
50°	3199	2871	2428
55°	2959	2602	2175
60°	2711	2324	1948
65°	2386	2035	1725
70°	1965	1782	1465
75°	1563	1365	1431
80°	1050	984	918
85°	653	784	915

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3456 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.9	4.7
10°-20°	935.5	13.0
20°-30°	1295.2	18.0
30°-40°	1381.0	19.2
40°-50°	1259.9	17.5
50°-60°	987.0	13.7
60°-70°	643.3	8.9
70°-80°	285.0	4.0
80°-90°	61.2	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°	2571.6	35.8
0°-40°	3952.6	55.0
0°-60°	6199.5	86.2
0°-90°	7189.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7189.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3662	3662	3662	3662	3662	
5°	3598	3594	3594	3590	3590	342
15°	3366	3366	3332	3298	3285	946
25°	2917	2900	2853	2752	2676	1339
35°	2366	2350	2235	2066	2015	1479
45°	1816	1778	1626	1490	1431	1399
55°	1262	1224	1109	978	927	1132
65°	749	707	639	652	542	738
75°	301	279	262	250	275	322
85°	42	47	51	55	59	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3662.0	3662.0	3662.0	3662.0	3662.0
2.5°	3636.6	3636.6	3636.6	3632.3	3632.3
5°	3598.5	3594.2	3594.2	3590.0	3590.0
7.5°	3568.8	3564.6	3560.4	3556.1	3547.7
10°	3526.5	3526.5	3522.3	3501.1	3496.9
12.5°	3458.8	3454.5	3437.6	3408.0	3399.5
15°	3365.6	3365.6	3331.8	3297.9	3285.2
17.5°	3264.0	3259.8	3217.5	3183.6	3166.7
20°	3154.0	3145.5	3103.2	3048.1	3018.5
22.5°	3031.2	3031.2	2980.4	2908.4	2878.8
25°	2916.9	2899.9	2853.4	2751.8	2675.6
27.5°	2785.6	2760.2	2709.4	2565.5	2476.6
30°	2641.7	2629.0	2557.0	2370.8	2303.0
32.5°	2506.2	2485.1	2408.9	2214.1	2159.1
35°	2366.5	2349.6	2235.3	2065.9	2015.1
37.5°	2226.8	2205.7	2061.7	1926.2	1862.7
40°	2087.1	2061.7	1905.1	1782.3	1714.6
42.5°	1955.9	1922.0	1769.6	1638.4	1562.2
45°	1816.2	1778.1	1625.7	1490.2	1430.9
47.5°	1676.5	1642.6	1502.9	1363.2	1295.5
50°	1528.3	1498.7	1371.7	1231.9	1160.0
52.5°	1405.5	1359.0	1236.2	1096.5	1037.2
55°	1261.6	1223.5	1109.2	977.9	927.1
57.5°	1130.3	1092.2	986.4	863.6	821.3
60°	1007.6	952.5	863.6	757.8	723.9
62.5°	872.1	829.8	753.6	664.7	707.0
65°	749.3	707.0	639.3	652.0	541.9
67.5°	613.9	592.7	533.4	474.2	457.2
70°	499.6	474.2	453.0	389.5	372.5
72.5°	397.9	372.5	342.9	309.0	296.3
75°	300.6	279.4	262.5	249.8	275.2
77.5°	207.4	199.0	186.3	173.6	169.3
80°	135.5	131.2	127.0	122.8	118.5
82.5°	80.4	80.4	80.4	80.4	80.4
85°	42.3	46.6	50.8	55.0	59.3
87.5°	25.4	25.4	29.6	33.9	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)