

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: P590120

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-82-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590120  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1STD-50-UNV-82-87-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

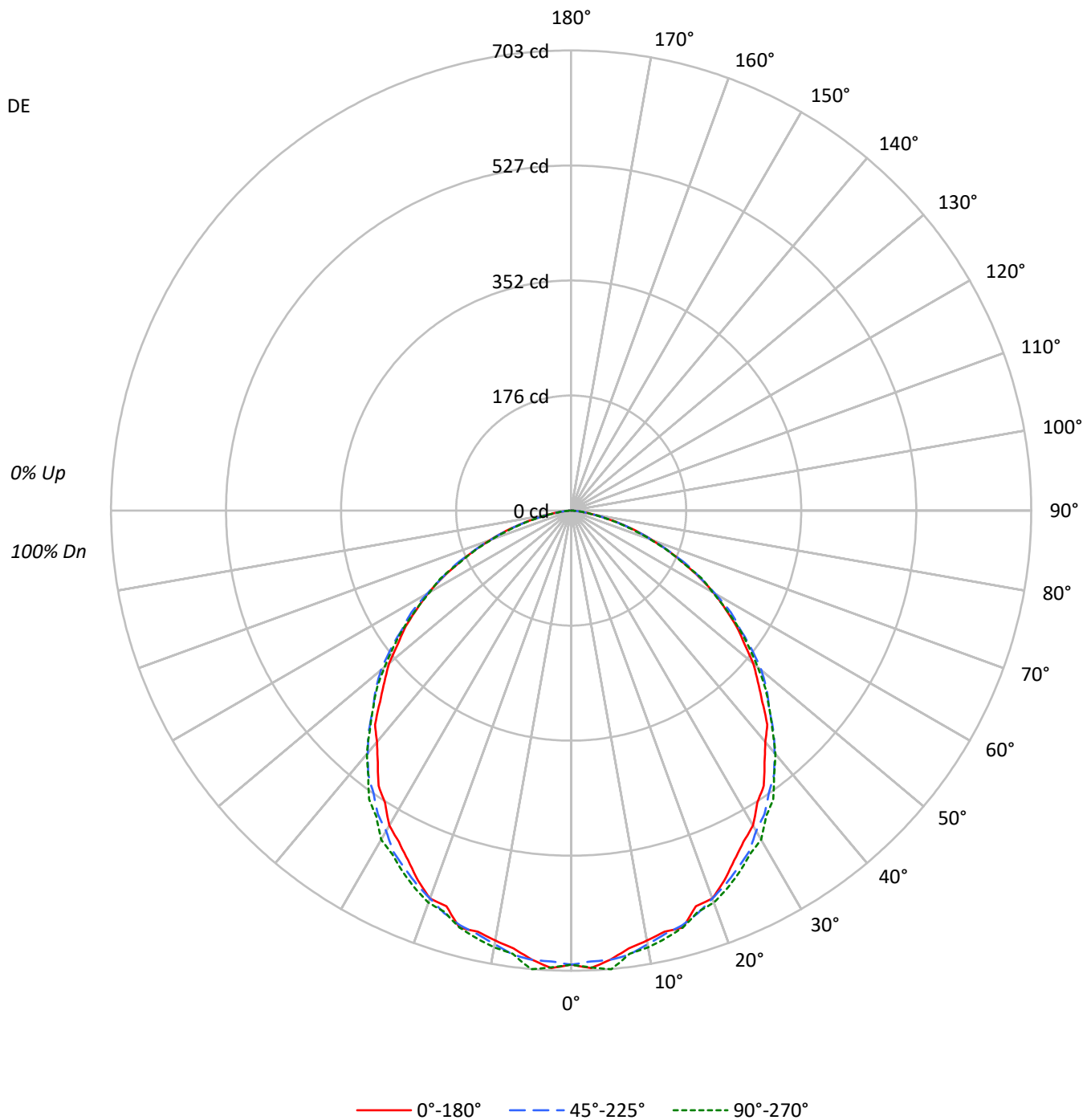
Lumens per Lamp: N/A  
Luminaire Lumens: 1748.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1866	1866	1866
5°	1860	1861	1900
10°	1823	1838	1851
15°	1837	1827	1837
20°	1806	1806	1825
25°	1750	1789	1808
30°	1726	1757	1803
35°	1686	1730	1769
40°	1620	1698	1705
45°	1571	1627	1629
50°	1519	1588	1558
55°	1448	1476	1465
60°	1354	1368	1343
65°	1207	1238	1198
70°	1035	1039	1010
75°	820	818	787
80°	550	535	513
85°	299	296	278

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1669 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.2	3.7
10°-20°	184.9	10.6
20°-30°	277.0	15.8
30°-40°	328.3	18.8
40°-50°	328.9	18.8
50°-60°	279.2	16.0
60°-70°	188.2	10.8
70°-80°	82.7	4.7
80°-90°	13.4	0.8
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°	527.1	30.2
0°-40°	855.5	48.9
0°-60°	1463.6	83.7
0°-90°	1748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1748.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	694	694	694	694	694	
5°	689	687	689	687	703	65
15°	659	652	656	659	659	184
25°	590	593	602	610	609	273
35°	513	515	527	539	538	319
45°	413	420	428	438	428	319
55°	309	306	315	312	312	274
65°	190	187	194	187	188	189
75°	79	77	79	73	76	85
85°	10	9	10	9	9	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	693.6	693.6	693.6	693.6	693.6
2.5°	699.6	694.3	689.4	695.1	698.6
5°	688.6	687.0	688.9	686.8	703.4
7.5°	674.5	680.7	684.2	682.0	683.0
10°	667.0	664.8	672.8	678.3	677.5
12.5°	658.9	662.1	662.6	668.6	669.1
15°	659.4	651.7	655.8	659.2	659.4
17.5°	633.7	642.0	644.8	652.5	642.9
20°	630.6	624.6	630.6	638.6	637.3
22.5°	611.4	604.6	617.5	624.6	624.2
25°	589.5	592.7	602.4	610.3	609.0
27.5°	570.3	574.1	587.9	598.7	591.7
30°	555.6	553.7	565.3	575.0	580.4
32.5°	529.1	536.0	549.6	559.1	554.0
35°	513.1	514.6	526.6	538.7	538.4
37.5°	485.1	492.2	508.9	512.3	509.2
40°	461.2	468.3	483.4	487.1	485.5
42.5°	443.5	444.8	457.8	462.0	455.3
45°	412.8	420.5	427.5	438.5	428.1
47.5°	386.7	390.3	405.3	408.3	402.8
50°	362.9	364.2	379.3	375.7	372.1
52.5°	333.1	338.4	346.9	346.2	342.0
55°	308.6	306.5	314.6	312.4	312.3
57.5°	279.1	282.7	289.3	285.9	280.5
60°	251.5	251.6	254.1	250.2	249.5
62.5°	220.8	221.9	222.4	217.7	225.4
65°	189.6	187.1	194.4	187.0	188.2
67.5°	160.8	162.1	161.4	156.7	158.5
70°	131.6	133.2	132.1	126.8	128.4
72.5°	105.0	103.0	104.2	97.6	100.7
75°	78.9	77.3	78.7	73.2	75.7
77.5°	53.7	55.0	54.1	51.1	52.8
80°	35.5	34.5	34.5	32.8	33.1
82.5°	20.7	19.7	19.4	18.9	19.7
85°	9.7	9.4	9.6	9.3	9.0
87.5°	3.5	3.6	3.6	3.4	3.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)