

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: P590118

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-82-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590118  
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-82-85-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

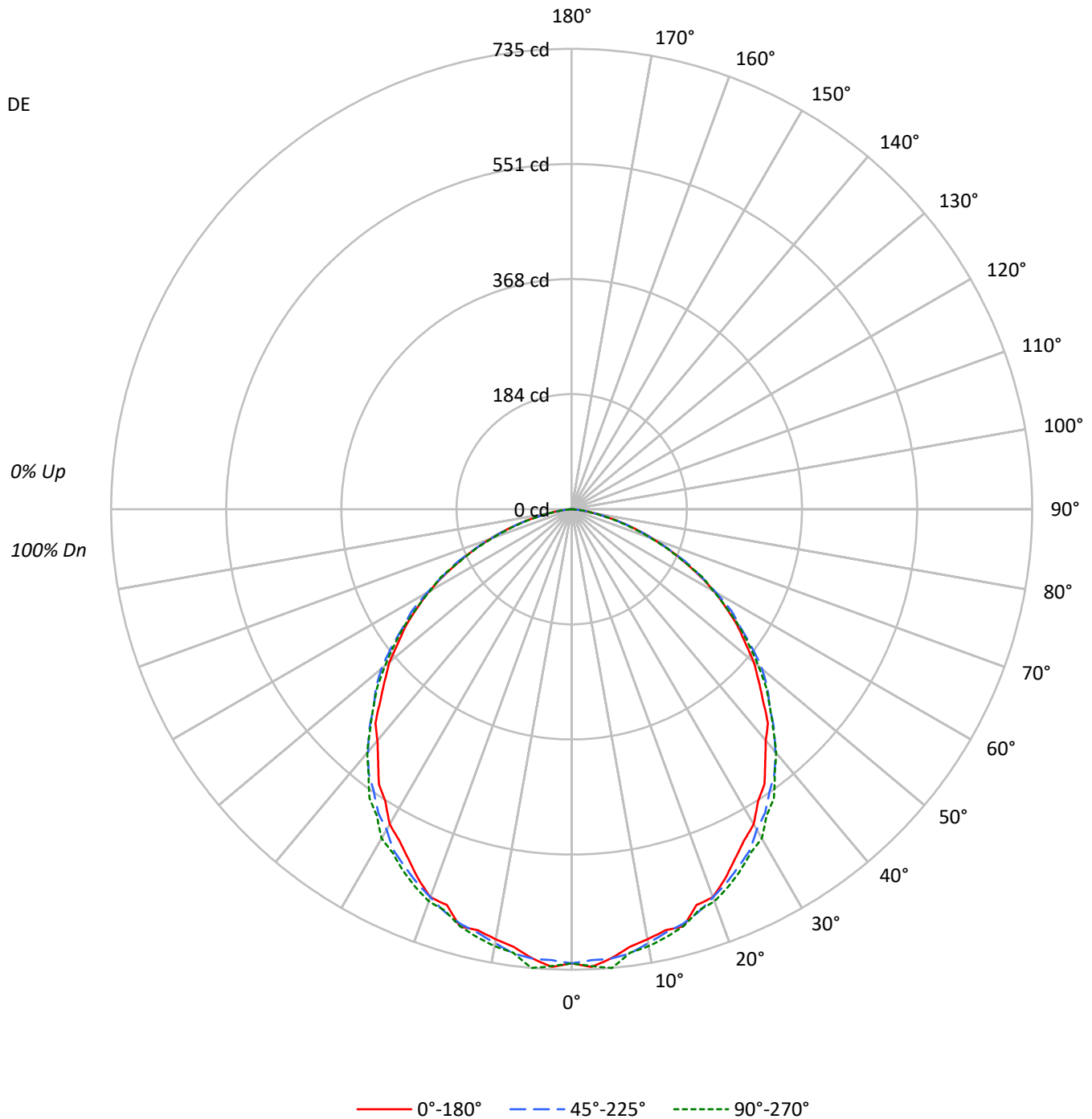
Lumens per Lamp: N/A  
Luminaire Lumens: 1827.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	1951	1951	1951
5°	1944	1945	1986
10°	1905	1921	1935
15°	1920	1909	1920
20°	1887	1887	1907
25°	1829	1869	1890
30°	1804	1836	1885
35°	1762	1808	1849
40°	1693	1775	1783
45°	1642	1700	1703
50°	1588	1660	1628
55°	1513	1543	1532
60°	1415	1429	1404
65°	1261	1294	1252
70°	1083	1087	1056
75°	858	856	822
80°	575	558	536
85°	312	309	290

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1744 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.2	3.7
10°-20°	193.3	10.6
20°-30°	289.5	15.8
30°-40°	343.2	18.8
40°-50°	343.8	18.8
50°-60°	291.8	16.0
60°-70°	196.7	10.8
70°-80°	86.5	4.7
80°-90°	14.0	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°	551.0	30.2
0°-40°	894.1	48.9
0°-60°	1529.7	83.7
0°-90°	1827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1827.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	720	718	720	718	735	68
15°	689	681	685	689	689	192
25°	616	620	630	638	637	285
35°	536	538	550	563	563	333
45°	432	440	447	458	448	334
55°	322	320	329	327	326	287
65°	198	196	203	195	197	197
75°	82	81	82	76	79	88
85°	10	10	10	10	9	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	724.9	724.9	724.9	724.9	724.9
2.5°	731.2	725.7	720.5	726.5	730.1
5°	719.8	718.1	720.0	717.9	735.2
7.5°	705.0	711.4	715.2	712.8	713.9
10°	697.1	694.9	703.2	709.0	708.2
12.5°	688.7	692.1	692.5	698.8	699.4
15°	689.2	681.2	685.4	689.0	689.2
17.5°	662.4	671.0	673.9	682.0	671.9
20°	659.1	652.8	659.1	667.4	666.1
22.5°	639.0	632.0	645.4	652.8	652.4
25°	616.1	619.5	629.6	637.9	636.6
27.5°	596.1	600.0	614.5	625.8	618.5
30°	580.7	578.7	590.9	601.0	606.6
32.5°	553.1	560.2	574.4	584.4	579.1
35°	536.3	537.9	550.3	563.1	562.7
37.5°	507.0	514.4	531.9	535.5	532.2
40°	482.0	489.4	505.2	509.1	507.5
42.5°	463.6	464.9	478.5	482.9	475.8
45°	431.5	439.5	446.8	458.3	447.5
47.5°	404.2	407.9	423.6	426.7	421.0
50°	379.3	380.7	396.5	392.6	388.9
52.5°	348.2	353.7	362.6	361.8	357.4
55°	322.5	320.4	328.8	326.6	326.5
57.5°	291.7	295.5	302.4	298.9	293.1
60°	262.9	263.0	265.5	261.5	260.8
62.5°	230.8	231.9	232.5	227.5	235.6
65°	198.1	195.5	203.2	195.4	196.7
67.5°	168.1	169.4	168.7	163.8	165.7
70°	137.6	139.3	138.1	132.5	134.2
72.5°	109.7	107.6	108.9	102.0	105.2
75°	82.5	80.8	82.3	76.5	79.1
77.5°	56.2	57.5	56.5	53.4	55.2
80°	37.1	36.0	36.0	34.3	34.6
82.5°	21.6	20.6	20.3	19.7	20.6
85°	10.1	9.8	10.0	9.7	9.4
87.5°	3.7	3.7	3.7	3.6	3.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)