

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: P590102

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590102  
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-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

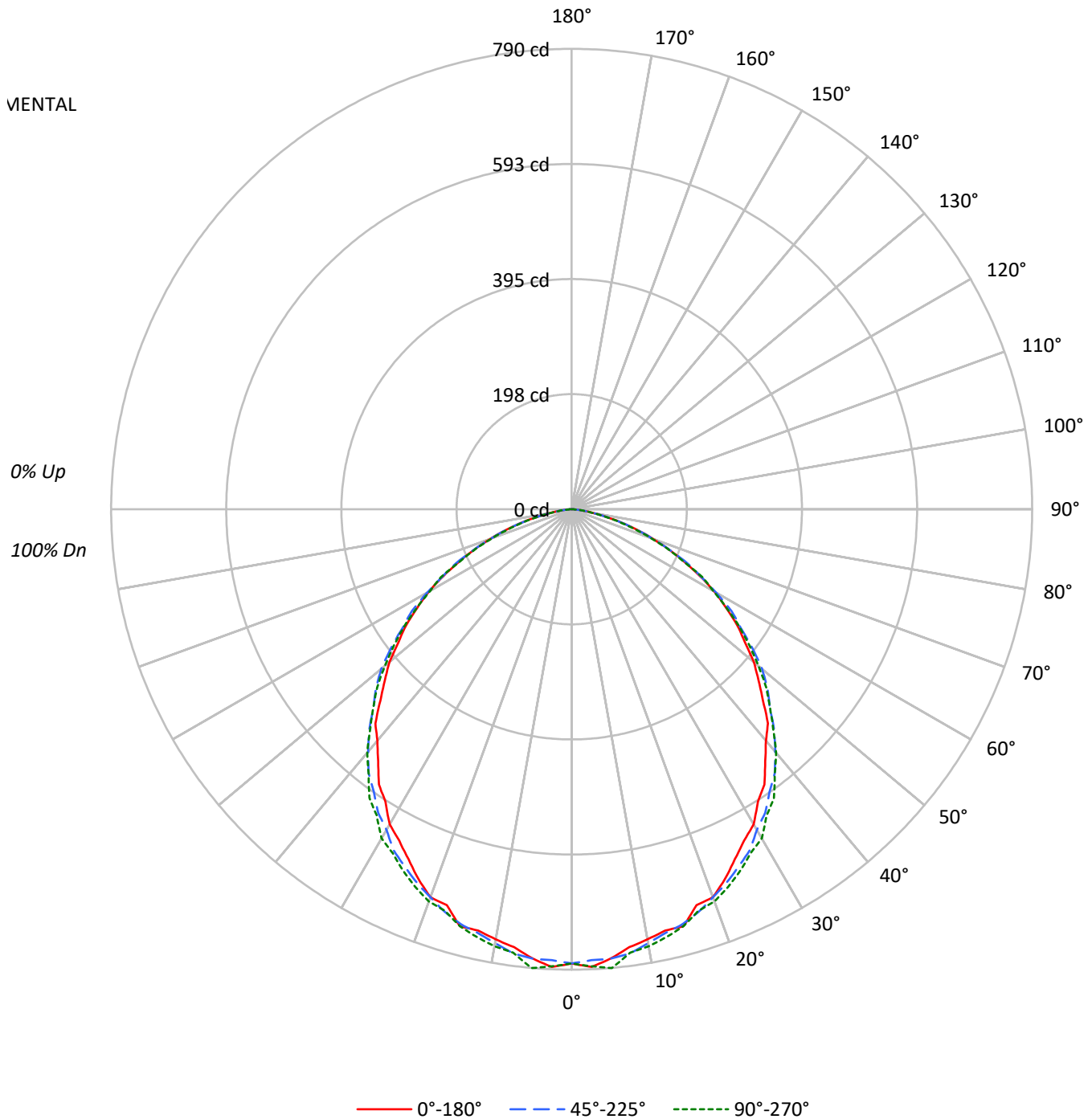
Lumens per Lamp: N/A  
Luminaire Lumens: 1964.0 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	2097	2097	2097
5°	2090	2091	2135
10°	2048	2065	2080
15°	2064	2053	2064
20°	2029	2029	2051
25°	1967	2010	2032
30°	1940	1974	2026
35°	1894	1943	1987
40°	1820	1908	1916
45°	1765	1828	1831
50°	1707	1784	1750
55°	1627	1658	1646
60°	1521	1536	1509
65°	1356	1391	1347
70°	1164	1168	1135
75°	921	919	884
80°	617	600	576
85°	337	333	312

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1875 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.3	3.7
10°-20°	207.7	10.6
20°-30°	311.2	15.8
30°-40°	368.9	18.8
40°-50°	369.6	18.8
50°-60°	313.7	16.0
60°-70°	211.5	10.8
70°-80°	92.9	4.7
80°-90°	15.1	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°	592.3	30.2
0°-40°	961.2	48.9
0°-60°	1644.4	83.7
0°-90°	1964.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1964.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	779	779	779	779	779	
5°	774	772	774	772	790	73
15°	741	732	737	741	741	206
25°	662	666	677	686	684	306
35°	576	578	592	605	605	358
45°	464	472	480	493	481	359
55°	347	344	354	351	351	308
65°	213	210	218	210	212	212
75°	89	87	88	82	85	95
85°	11	11	11	10	10	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	779.3	779.3	779.3	779.3	779.3
2.5°	786.0	780.1	774.5	781.0	784.9
5°	773.7	771.9	774.0	771.7	790.3
7.5°	757.8	764.8	768.8	766.3	767.4
10°	749.4	747.0	755.9	762.2	761.3
12.5°	740.3	743.9	744.5	751.2	751.8
15°	740.8	732.3	736.8	740.6	740.9
17.5°	712.1	721.3	724.4	733.2	722.3
20°	708.5	701.8	708.5	717.5	716.1
22.5°	686.9	679.4	693.8	701.8	701.3
25°	662.4	666.0	676.8	685.7	684.3
27.5°	640.8	645.0	660.5	672.7	664.9
30°	624.2	622.1	635.2	646.1	652.1
32.5°	594.5	602.2	617.5	628.2	622.5
35°	576.5	578.2	591.6	605.3	604.9
37.5°	545.0	553.0	571.8	575.6	572.1
40°	518.2	526.1	543.1	547.2	545.5
42.5°	498.3	499.8	514.3	519.1	511.5
45°	463.8	472.5	480.3	492.7	481.0
47.5°	434.5	438.5	455.4	458.7	452.6
50°	407.8	409.2	426.2	422.1	418.1
52.5°	374.3	380.2	389.8	389.0	384.2
55°	346.7	344.4	353.5	351.0	350.9
57.5°	313.6	317.6	325.1	321.3	315.1
60°	282.6	282.7	285.4	281.1	280.3
62.5°	248.1	249.3	249.9	244.6	253.2
65°	213.0	210.2	218.4	210.1	211.5
67.5°	180.7	182.1	181.3	176.1	178.1
70°	147.9	149.7	148.4	142.5	144.3
72.5°	117.9	115.7	117.1	109.7	113.1
75°	88.6	86.8	88.4	82.2	85.0
77.5°	60.4	61.8	60.8	57.5	59.4
80°	39.8	38.7	38.7	36.8	37.2
82.5°	23.2	22.1	21.8	21.2	22.1
85°	10.9	10.6	10.8	10.5	10.1
87.5°	3.9	4.0	4.0	3.8	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)