

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: P590051

Luminaire Tested: FSR-24-2-LD4-1STD-35-UNV-81-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590051  
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-35-UNV-81-96-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

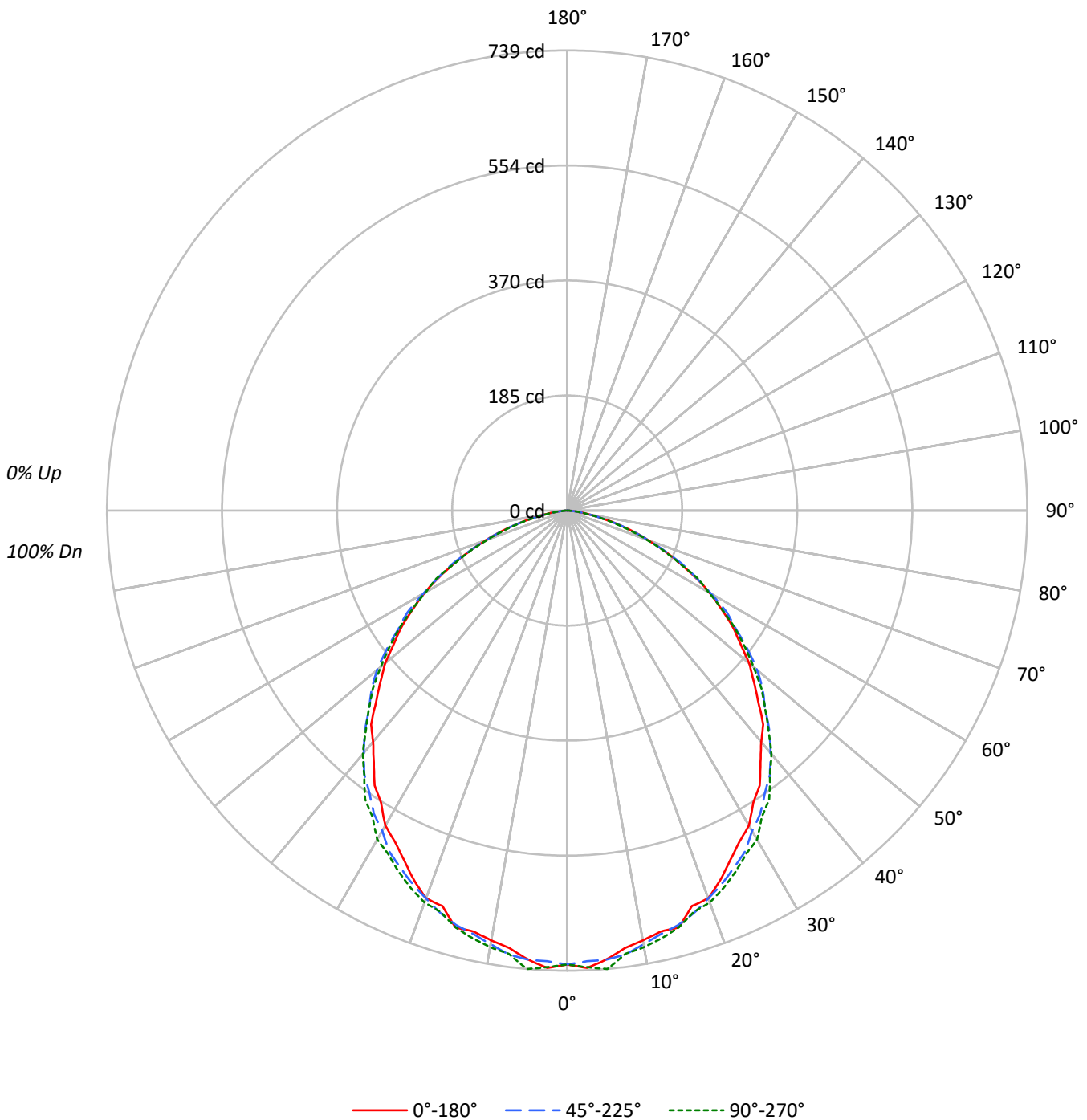
Lumens per Lamp: N/A  
Luminaire Lumens: 1837.0 lumens  
Efficiency: N/A  
Efficacy: 110.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1961	1961	1961
5°	1955	1956	1997
10°	1915	1932	1946
15°	1930	1920	1931
20°	1898	1898	1918
25°	1839	1880	1900
30°	1814	1846	1895
35°	1771	1818	1859
40°	1703	1785	1793
45°	1651	1710	1712
50°	1597	1669	1637
55°	1521	1551	1540
60°	1423	1437	1411
65°	1268	1301	1259
70°	1088	1092	1062
75°	862	860	827
80°	578	561	539
85°	315	312	290

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1754 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.6	3.7
10°-20°	194.3	10.6
20°-30°	291.1	15.8
30°-40°	345.0	18.8
40°-50°	345.7	18.8
50°-60°	293.4	16.0
60°-70°	197.8	10.8
70°-80°	86.9	4.7
80°-90°	14.1	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°	554.0	30.2
0°-40°	899.0	48.9
0°-60°	1538.1	83.7
0°-90°	1837.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1837.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	729	729	729	729	729	
5°	724	722	724	722	739	68
15°	693	685	689	693	693	193
25°	620	623	633	641	640	286
35°	539	541	553	566	566	335
45°	434	442	449	461	450	336
55°	324	322	331	328	328	288
65°	199	197	204	196	198	198
75°	83	81	83	77	80	89
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°	728.9	728.9	728.9	728.9	728.9
2.5°	735.2	729.6	724.5	730.5	734.1
5°	723.7	722.0	724.0	721.8	739.2
7.5°	708.8	715.3	719.1	716.7	717.8
10°	700.9	698.7	707.0	712.9	712.0
12.5°	692.5	695.8	696.3	702.6	703.2
15°	692.9	684.9	689.2	692.7	693.0
17.5°	666.0	674.7	677.6	685.8	675.6
20°	662.7	656.4	662.7	671.1	669.8
22.5°	642.5	635.4	649.0	656.4	655.9
25°	619.5	622.9	633.1	641.4	640.0
27.5°	599.4	603.3	617.8	629.2	621.9
30°	583.9	581.9	594.1	604.3	609.9
32.5°	556.1	563.2	577.5	587.6	582.3
35°	539.2	540.8	553.4	566.2	565.8
37.5°	509.8	517.2	534.8	538.4	535.1
40°	484.7	492.1	508.0	511.9	510.3
42.5°	466.1	467.4	481.1	485.5	478.5
45°	433.8	441.9	449.3	460.9	449.9
47.5°	406.4	410.1	425.9	429.0	423.3
50°	381.4	382.7	398.6	394.8	391.0
52.5°	350.1	355.6	364.6	363.8	359.4
55°	324.3	322.1	330.6	328.3	328.3
57.5°	293.3	297.1	304.1	300.5	294.7
60°	264.4	264.4	267.0	262.9	262.2
62.5°	232.1	233.2	233.8	228.8	236.9
65°	199.2	196.6	204.3	196.5	197.8
67.5°	169.0	170.3	169.6	164.7	166.6
70°	138.3	140.0	138.8	133.3	135.0
72.5°	110.3	108.2	109.5	102.6	105.8
75°	82.9	81.2	82.7	76.9	79.5
77.5°	56.5	57.8	56.8	53.7	55.5
80°	37.3	36.2	36.2	34.4	34.8
82.5°	21.7	20.7	20.4	19.9	20.7
85°	10.2	9.9	10.1	9.8	9.4
87.5°	3.7	3.8	3.8	3.6	3.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)