

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: P561739

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561739  
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-12-4-LD4-2STD-35-UNV-81-94-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

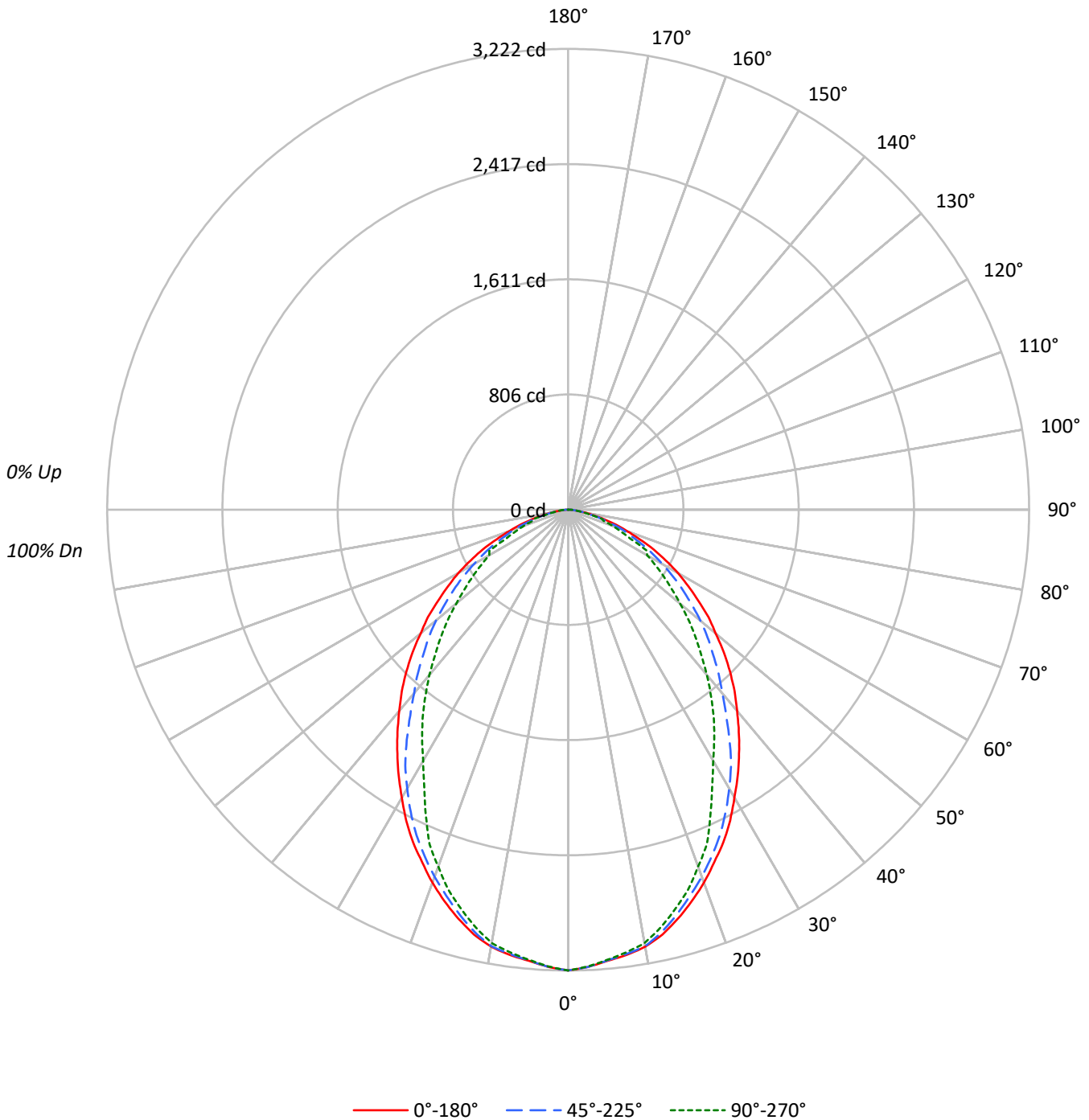
Lumens per Lamp: N/A  
Luminaire Lumens: 6325.0 lumens  
Efficiency: N/A  
Efficacy: 95.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P561739

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P561739

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-94-EDD

**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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

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

	0°	45°	90°
0°	8670	8670	8670
5°	8552	8542	8532
10°	8478	8468	8407
15°	8249	8166	8052
20°	7946	7818	7605
25°	7620	7454	6989
30°	7222	6990	6296
35°	6840	6460	5824
40°	6451	5888	5299
45°	6081	5443	4791
50°	5629	5052	4273
55°	5208	4579	3827
60°	4771	4089	3428
65°	4198	3581	3036
70°	3458	3135	2579
75°	2750	2401	2517
80°	1847	1731	1616
85°	1149	1380	1609

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6081 cd/sqm



TEST NUMBER: P561739

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.9	4.7
10°-20°	823.1	13.0
20°-30°	1139.5	18.0
30°-40°	1215.0	19.2
40°-50°	1108.5	17.5
50°-60°	868.4	13.7
60°-70°	566.0	8.9
70°-80°	250.8	4.0
80°-90°	53.8	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°	2262.5	35.8
0°-40°	3477.5	55.0
0°-60°	5454.4	86.2
0°-90°	6325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6325.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3222	3222	3222	3222	3222	
5°	3166	3162	3162	3159	3159	301
15°	2961	2961	2931	2902	2890	832
25°	2566	2551	2510	2421	2354	1178
35°	2082	2067	1967	1818	1773	1302
45°	1598	1564	1430	1311	1259	1231
55°	1110	1076	976	860	816	996
65°	659	622	562	574	477	650
75°	264	246	231	220	242	283
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



TEST NUMBER: P561739

CATALOG NUMBER: FSR-12-4-LD4-2STD-35-UNV-81-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3221.9	3221.9	3221.9	3221.9	3221.9
2.5°	3199.5	3199.5	3199.5	3195.8	3195.8
5°	3166.0	3162.3	3162.3	3158.6	3158.6
7.5°	3139.9	3136.2	3132.5	3128.8	3121.3
10°	3102.7	3102.7	3099.0	3080.3	3076.6
12.5°	3043.1	3039.4	3024.5	2998.4	2990.9
15°	2961.1	2961.1	2931.3	2901.5	2890.4
17.5°	2871.7	2868.0	2830.8	2801.0	2786.1
20°	2774.9	2767.5	2730.2	2681.8	2655.7
22.5°	2666.9	2666.9	2622.2	2558.9	2532.8
25°	2566.3	2551.4	2510.5	2421.1	2354.0
27.5°	2450.9	2428.5	2383.8	2257.2	2179.0
30°	2324.2	2313.0	2249.7	2085.8	2026.2
32.5°	2205.0	2186.4	2119.4	1948.0	1899.6
35°	2082.1	2067.2	1966.6	1817.7	1773.0
37.5°	1959.2	1940.6	1813.9	1694.7	1638.9
40°	1836.3	1813.9	1676.1	1568.1	1508.5
42.5°	1720.8	1691.0	1556.9	1441.5	1374.4
45°	1597.9	1564.4	1430.3	1311.1	1259.0
47.5°	1475.0	1445.2	1322.3	1199.4	1139.8
50°	1344.6	1318.5	1206.8	1083.9	1020.6
52.5°	1236.6	1195.6	1087.6	964.7	912.6
55°	1110.0	1076.4	975.9	860.4	815.7
57.5°	994.5	961.0	867.9	759.8	722.6
60°	886.5	838.1	759.8	666.7	636.9
62.5°	767.3	730.0	663.0	584.8	622.0
65°	659.3	622.0	562.4	573.6	476.8
67.5°	540.1	521.5	469.3	417.2	402.3
70°	439.5	417.2	398.5	342.7	327.8
72.5°	350.1	327.8	301.7	271.9	260.7
75°	264.5	245.8	230.9	219.8	242.1
77.5°	182.5	175.1	163.9	152.7	149.0
80°	119.2	115.5	111.7	108.0	104.3
82.5°	70.8	70.8	70.8	70.8	70.8
85°	37.2	41.0	44.7	48.4	52.1
87.5°	22.3	22.3	26.1	29.8	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)