

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: P559791

Luminaire Tested: FSR-12-2-LD4-1HI-50-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559791  
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-12-2-LD4-1HI-50-UNV-93-97-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

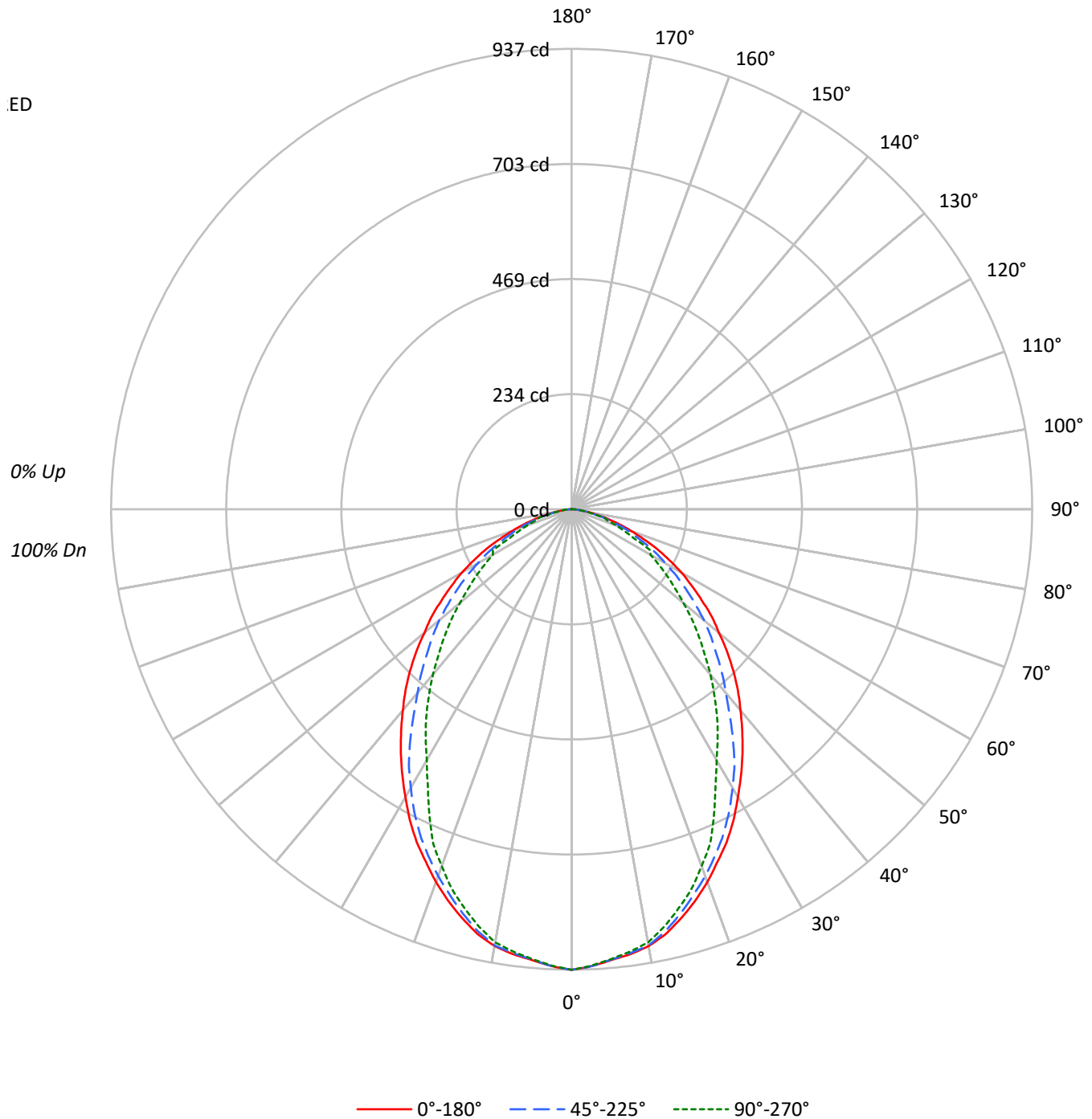
Lumens per Lamp: N/A  
Luminaire Lumens: 1840.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P559791

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-93-97-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P559791

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-93-97-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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

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

	0°	45°	90°
0°	5045	5045	5045
5°	4976	4970	4964
10°	4933	4927	4891
15°	4800	4752	4685
20°	4623	4549	4425
25°	4434	4337	4067
30°	4202	4067	3663
35°	3980	3759	3389
40°	3753	3426	3083
45°	3538	3167	2787
50°	3275	2940	2486
55°	3030	2664	2227
60°	2776	2379	1995
65°	2443	2083	1766
70°	2013	1824	1501
75°	1599	1397	1464
80°	1075	1007	939
85°	667	803	939

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3538 cd/sqm

TEST NUMBER: P559791

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-93-97-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.2	4.7
10°-20°	239.4	13.0
20°-30°	331.5	18.0
30°-40°	353.5	19.2
40°-50°	322.5	17.5
50°-60°	252.6	13.7
60°-70°	164.7	8.9
70°-80°	72.9	4.0
80°-90°	15.7	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°	658.2	35.8
0°-40°	1011.6	55.0
0°-60°	1586.7	86.2
0°-90°	1840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1840.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	937	937	937	937	937	
5°	921	920	920	919	919	87
15°	861	861	853	844	841	242
25°	747	742	730	704	685	343
35°	606	601	572	529	516	379
45°	465	455	416	381	366	358
55°	323	313	284	250	237	290
65°	192	181	164	167	139	189
75°	77	72	67	64	70	82
85°	11	12	13	14	15	15
90°	0	0	0	0	0	

TEST NUMBER: P559791

CATALOG NUMBER: FSR-12-2-LD4-1HI-50-UNV-93-97-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	937.3	937.3	937.3	937.3	937.3
2.5°	930.8	930.8	930.8	929.7	929.7
5°	921.0	919.9	919.9	918.9	918.9
7.5°	913.4	912.3	911.3	910.2	908.0
10°	902.6	902.6	901.5	896.1	895.0
12.5°	885.3	884.2	879.8	872.3	870.1
15°	861.4	861.4	852.8	844.1	840.8
17.5°	835.4	834.3	823.5	814.8	810.5
20°	807.2	805.1	794.2	780.2	772.6
22.5°	775.8	775.8	762.8	744.4	736.8
25°	746.6	742.2	730.3	704.3	684.8
27.5°	713.0	706.5	693.5	656.6	633.9
30°	676.1	672.9	654.5	606.8	589.5
32.5°	641.5	636.0	616.5	566.7	552.6
35°	605.7	601.4	572.1	528.8	515.8
37.5°	569.9	564.5	527.7	493.0	476.8
40°	534.2	527.7	487.6	456.2	438.8
42.5°	500.6	491.9	452.9	419.3	399.8
45°	464.8	455.1	416.1	381.4	366.2
47.5°	429.1	420.4	384.7	348.9	331.6
50°	391.2	383.6	351.1	315.3	296.9
52.5°	359.7	347.8	316.4	280.6	265.5
55°	322.9	313.1	283.9	250.3	237.3
57.5°	289.3	279.6	252.5	221.0	210.2
60°	257.9	243.8	221.0	194.0	185.3
62.5°	223.2	212.4	192.9	170.1	181.0
65°	191.8	181.0	163.6	166.9	138.7
67.5°	157.1	151.7	136.5	121.4	117.0
70°	127.9	121.4	115.9	99.7	95.4
72.5°	101.9	95.4	87.8	79.1	75.8
75°	76.9	71.5	67.2	63.9	70.4
77.5°	53.1	50.9	47.7	44.4	43.3
80°	34.7	33.6	32.5	31.4	30.3
82.5°	20.6	20.6	20.6	20.6	20.6
85°	10.8	11.9	13.0	14.1	15.2
87.5°	6.5	6.5	7.6	8.7	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)