

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: P561034

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561034  
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-LD4-1LO-40-UNV-81-94-EDD-90  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

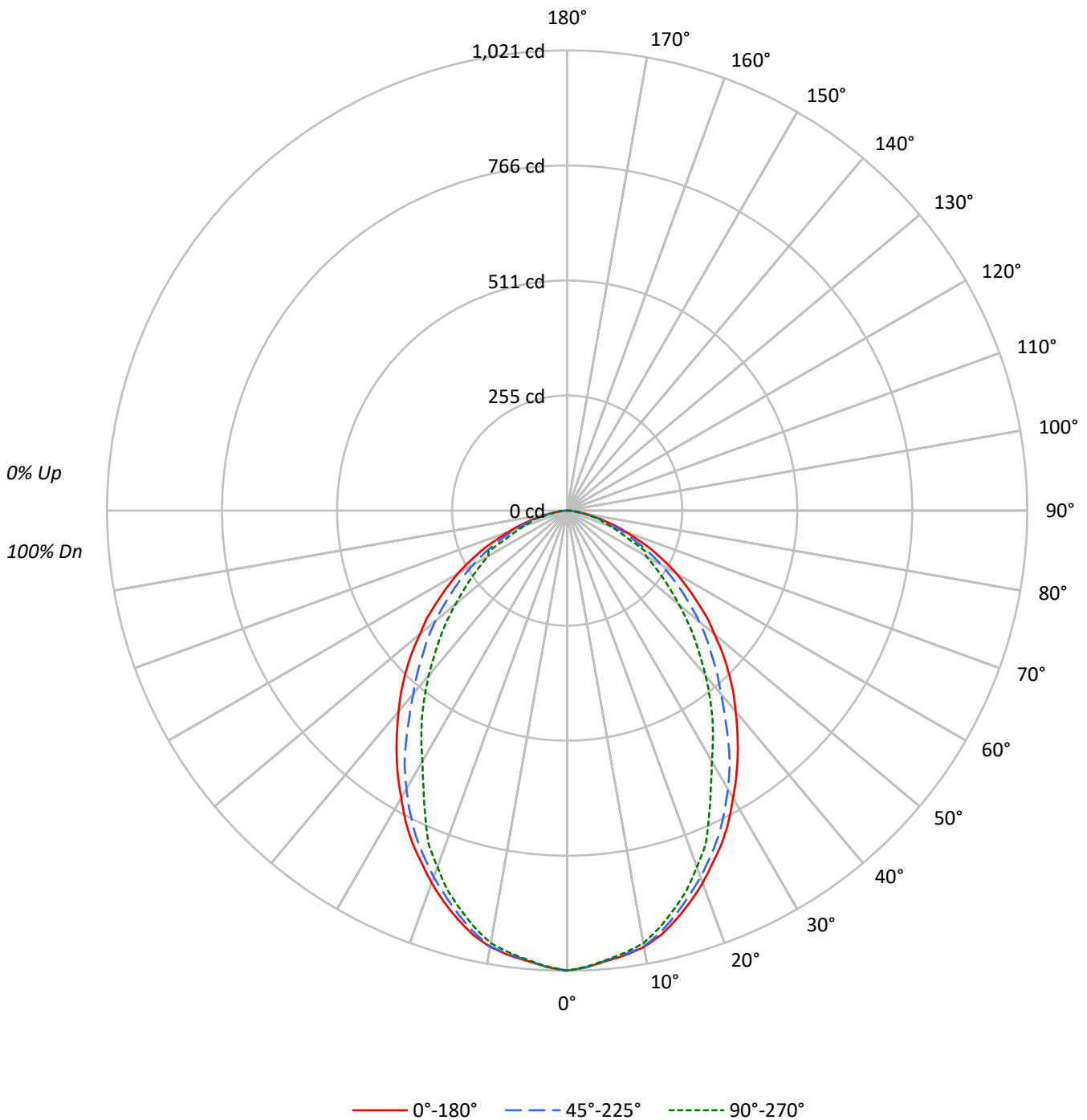
Lumens per Lamp: N/A  
Luminaire Lumens: 2004.0 lumens  
Efficiency: N/A  
Efficacy: 85.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2747	2747	2747
5°	2710	2706	2703
10°	2686	2683	2664
15°	2614	2588	2551
20°	2518	2477	2410
25°	2414	2362	2214
30°	2288	2215	1995
35°	2167	2047	1845
40°	2044	1866	1679
45°	1927	1725	1518
50°	1783	1601	1354
55°	1650	1451	1212
60°	1512	1295	1086
65°	1330	1135	962
70°	1096	994	817
75°	871	761	797
80°	586	549	511
85°	364	438	509

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1927 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	95.0	4.7
10°-20°	260.8	13.0
20°-30°	361.0	18.0
30°-40°	385.0	19.2
40°-50°	351.2	17.5
50°-60°	275.1	13.7
60°-70°	179.3	8.9
70°-80°	79.5	4.0
80°-90°	17.1	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°	716.8	35.8
0°-40°	1101.8	55.0
0°-60°	1728.2	86.2
0°-90°	2004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2004.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1021	1021	1021	1021	1021	
5°	1003	1002	1002	1001	1001	95
15°	938	938	929	919	916	264
25°	813	808	795	767	746	373
35°	660	655	623	576	562	412
45°	506	496	453	415	399	390
55°	352	341	309	273	258	315
65°	209	197	178	182	151	206
75°	84	78	73	70	77	90
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1020.8	1020.8	1020.8	1020.8	1020.8
2.5°	1013.7	1013.7	1013.7	1012.5	1012.5
5°	1003.1	1001.9	1001.9	1000.7	1000.7
7.5°	994.8	993.7	992.5	991.3	988.9
10°	983.0	983.0	981.9	976.0	974.8
12.5°	964.2	963.0	958.3	950.0	947.6
15°	938.2	938.2	928.8	919.3	915.8
17.5°	909.9	908.7	896.9	887.5	882.7
20°	879.2	876.8	865.0	849.7	841.4
22.5°	845.0	845.0	830.8	810.7	802.5
25°	813.1	808.4	795.4	767.1	745.8
27.5°	776.5	769.4	755.3	715.2	690.4
30°	736.4	732.9	712.8	660.9	642.0
32.5°	698.6	692.7	671.5	617.2	601.9
35°	659.7	655.0	623.1	575.9	561.7
37.5°	620.7	614.8	574.7	537.0	519.3
40°	581.8	574.7	531.1	496.8	478.0
42.5°	545.2	535.8	493.3	456.7	435.5
45°	506.3	495.7	453.2	415.4	398.9
47.5°	467.3	457.9	418.9	380.0	361.1
50°	426.0	417.8	382.4	343.4	323.4
52.5°	391.8	378.8	344.6	305.7	289.1
55°	351.7	341.1	309.2	272.6	258.4
57.5°	315.1	304.5	275.0	240.7	228.9
60°	280.9	265.5	240.7	211.2	201.8
62.5°	243.1	231.3	210.1	185.3	197.1
65°	208.9	197.1	178.2	181.7	151.1
67.5°	171.1	165.2	148.7	132.2	127.5
70°	139.3	132.2	126.3	108.6	103.9
72.5°	110.9	103.9	95.6	86.1	82.6
75°	83.8	77.9	73.2	69.6	76.7
77.5°	57.8	55.5	51.9	48.4	47.2
80°	37.8	36.6	35.4	34.2	33.0
82.5°	22.4	22.4	22.4	22.4	22.4
85°	11.8	13.0	14.2	15.3	16.5
87.5°	7.1	7.1	8.3	9.4	10.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)