

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: P561015

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561015  
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-80-87-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

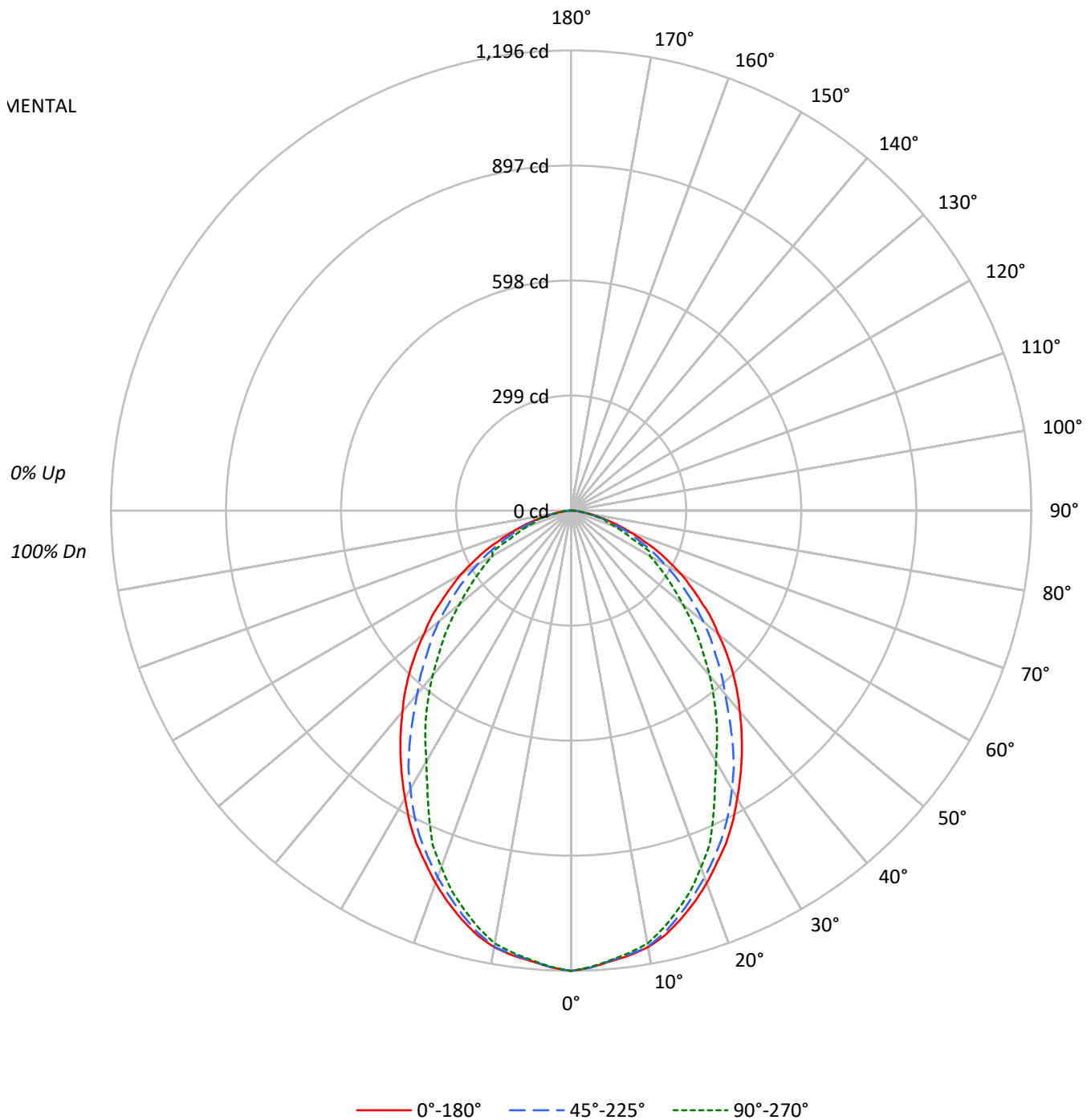
Lumens per Lamp: N/A  
Luminaire Lumens: 2349.0 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3220	3220	3220
5°	3176	3172	3169
10°	3149	3145	3122
15°	3064	3033	2990
20°	2951	2904	2824
25°	2830	2768	2596
30°	2682	2596	2338
35°	2540	2399	2163
40°	2396	2187	1968
45°	2258	2022	1780
50°	2091	1876	1587
55°	1934	1700	1421
60°	1772	1519	1273
65°	1559	1330	1128
70°	1284	1164	958
75°	1021	892	935
80°	687	643	600
85°	426	513	599

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2258 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.4	4.7
10°-20°	305.7	13.0
20°-30°	423.2	18.0
30°-40°	451.2	19.2
40°-50°	411.7	17.5
50°-60°	322.5	13.7
60°-70°	210.2	8.9
70°-80°	93.1	4.0
80°-90°	20.0	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°	840.3	35.8
0°-40°	1291.5	55.0
0°-60°	2025.7	86.2
0°-90°	2349.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2349.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1196	1196	1196	1196	1196	
5°	1176	1174	1174	1173	1173	112
15°	1100	1100	1089	1078	1073	309
25°	953	948	932	899	874	438
35°	773	768	730	675	658	483
45°	593	581	531	487	468	457
55°	412	400	362	320	303	370
65°	245	231	209	213	177	241
75°	98	91	86	82	90	105
85°	14	15	17	18	19	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1196.5	1196.5	1196.5	1196.5	1196.5
2.5°	1188.2	1188.2	1188.2	1186.9	1186.9
5°	1175.8	1174.4	1174.4	1173.0	1173.0
7.5°	1166.1	1164.7	1163.4	1162.0	1159.2
10°	1152.3	1152.3	1150.9	1144.0	1142.6
12.5°	1130.2	1128.8	1123.2	1113.6	1110.8
15°	1099.7	1099.7	1088.7	1077.6	1073.4
17.5°	1066.5	1065.1	1051.3	1040.2	1034.7
20°	1030.6	1027.8	1014.0	996.0	986.3
22.5°	990.4	990.4	973.8	950.3	940.6
25°	953.1	947.6	932.3	899.1	874.2
27.5°	910.2	901.9	885.3	838.3	809.2
30°	863.2	859.0	835.5	774.6	752.5
32.5°	818.9	812.0	787.1	723.5	705.5
35°	773.3	767.7	730.4	675.0	658.4
37.5°	727.6	720.7	673.7	629.4	608.6
40°	682.0	673.7	622.5	582.4	560.2
42.5°	639.1	628.0	578.2	535.3	510.4
45°	593.4	581.0	531.2	486.9	467.6
47.5°	547.8	536.7	491.1	445.4	423.3
50°	499.4	489.7	448.2	402.5	379.0
52.5°	459.3	444.0	403.9	358.3	338.9
55°	412.2	399.8	362.4	319.5	302.9
57.5°	369.3	356.9	322.3	282.2	268.4
60°	329.2	311.2	282.2	247.6	236.5
62.5°	285.0	271.1	246.2	217.2	231.0
65°	244.8	231.0	208.9	213.0	177.1
67.5°	200.6	193.7	174.3	154.9	149.4
70°	163.2	154.9	148.0	127.3	121.7
72.5°	130.0	121.7	112.0	101.0	96.8
75°	98.2	91.3	85.8	81.6	89.9
77.5°	67.8	65.0	60.9	56.7	55.3
80°	44.3	42.9	41.5	40.1	38.7
82.5°	26.3	26.3	26.3	26.3	26.3
85°	13.8	15.2	16.6	18.0	19.4
87.5°	8.3	8.3	9.7	11.1	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)