

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: P562100

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562100  
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-24-4-LD4-1HI-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

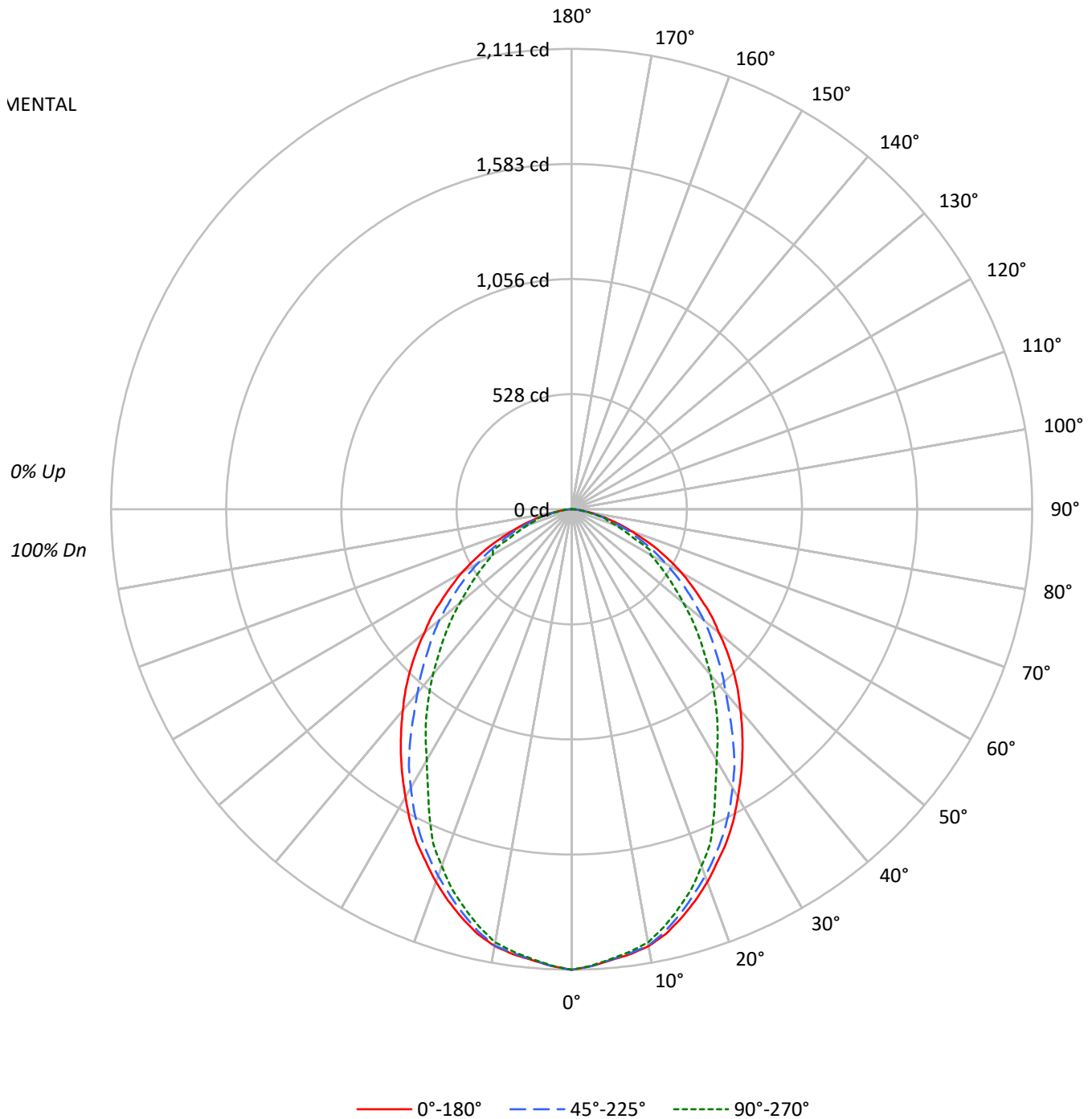
Lumens per Lamp: N/A  
Luminaire Lumens: 4145.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2841	2841	2841
5°	2802	2799	2796
10°	2778	2775	2755
15°	2703	2676	2639
20°	2604	2562	2492
25°	2497	2442	2290
30°	2366	2291	2063
35°	2241	2117	1908
40°	2114	1929	1736
45°	1993	1784	1570
50°	1845	1656	1400
55°	1706	1500	1254
60°	1563	1340	1123
65°	1375	1174	995
70°	1133	1028	845
75°	901	787	825
80°	605	567	529
85°	377	452	528

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1993 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	196.5	4.7
10°-20°	539.4	13.0
20°-30°	746.8	18.0
30°-40°	796.3	19.2
40°-50°	726.4	17.5
50°-60°	569.1	13.7
60°-70°	370.9	8.9
70°-80°	164.3	4.0
80°-90°	35.3	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°	1482.7	35.8
0°-40°	2279.0	55.0
0°-60°	3574.5	86.2
0°-90°	4145.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4145.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2111	2111	2111	2111	2111	
5°	2075	2072	2072	2070	2070	197
15°	1940	1940	1921	1902	1894	546
25°	1682	1672	1645	1587	1543	772
35°	1364	1355	1289	1191	1162	853
45°	1047	1025	937	859	825	807
55°	727	705	640	564	535	652
65°	432	408	369	376	312	426
75°	173	161	151	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2111.4	2111.4	2111.4	2111.4	2111.4
2.5°	2096.8	2096.8	2096.8	2094.3	2094.3
5°	2074.8	2072.4	2072.4	2069.9	2069.9
7.5°	2057.7	2055.3	2052.8	2050.4	2045.5
10°	2033.3	2033.3	2030.9	2018.7	2016.2
12.5°	1994.2	1991.8	1982.0	1965.0	1960.1
15°	1940.5	1940.5	1921.0	1901.5	1894.2
17.5°	1882.0	1879.5	1855.1	1835.6	1825.8
20°	1818.5	1813.6	1789.2	1757.5	1740.4
22.5°	1747.7	1747.7	1718.4	1676.9	1659.8
25°	1681.8	1672.0	1645.2	1586.6	1542.7
27.5°	1606.1	1591.5	1562.2	1479.2	1427.9
30°	1523.1	1515.8	1474.3	1366.9	1327.9
32.5°	1445.0	1432.8	1388.9	1276.6	1244.9
35°	1364.5	1354.7	1288.8	1191.2	1161.9
37.5°	1283.9	1271.7	1188.7	1110.6	1074.0
40°	1203.4	1188.7	1098.4	1027.6	988.6
42.5°	1127.7	1108.2	1020.3	944.6	900.7
45°	1047.2	1025.2	937.3	859.2	825.0
47.5°	966.6	947.1	866.5	786.0	746.9
50°	881.2	864.1	790.9	710.3	668.8
52.5°	810.4	783.5	712.8	632.2	598.0
55°	727.4	705.4	639.5	563.9	534.6
57.5°	651.7	629.8	568.7	498.0	473.5
60°	580.9	549.2	498.0	436.9	417.4
62.5°	502.8	478.4	434.5	383.2	407.6
65°	432.0	407.6	368.6	375.9	312.4
67.5°	353.9	341.7	307.6	273.4	263.6
70°	288.0	273.4	261.2	224.6	214.8
72.5°	229.4	214.8	197.7	178.2	170.9
75°	173.3	161.1	151.3	144.0	158.7
77.5°	119.6	114.7	107.4	100.1	97.6
80°	78.1	75.7	73.2	70.8	68.3
82.5°	46.4	46.4	46.4	46.4	46.4
85°	24.4	26.9	29.3	31.7	34.2
87.5°	14.6	14.6	17.1	19.5	22.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)