

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: P562117

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562117  
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-81-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

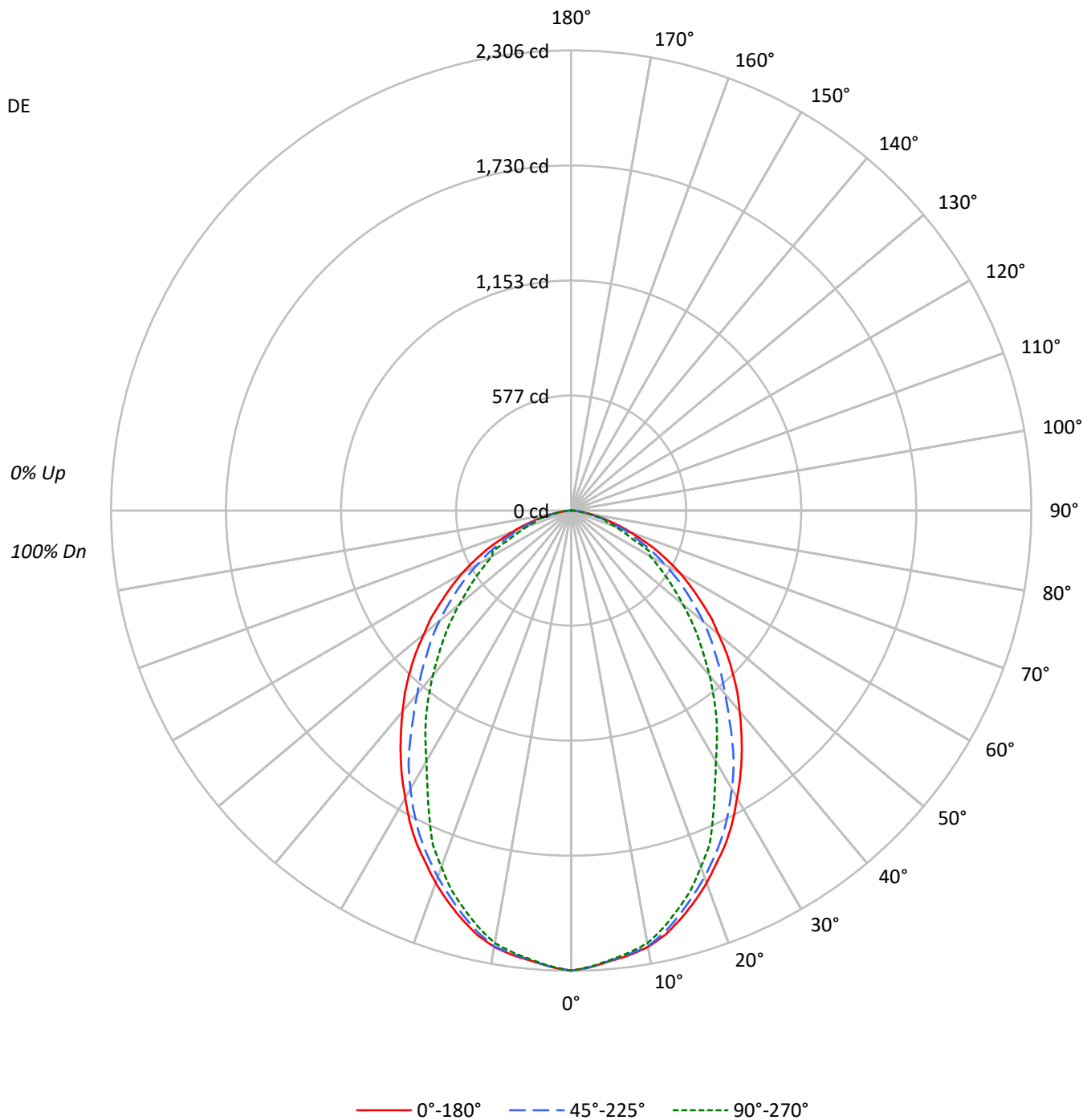
Lumens per Lamp: N/A  
Luminaire Lumens: 4526.0 lumens  
Efficiency: N/A  
Efficacy: 104.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3102	3102	3102
5°	3060	3056	3053
10°	3033	3030	3008
15°	2952	2922	2881
20°	2843	2797	2721
25°	2726	2667	2501
30°	2584	2501	2253
35°	2447	2312	2084
40°	2308	2107	1896
45°	2176	1948	1714
50°	2014	1808	1529
55°	1863	1638	1369
60°	1707	1463	1227
65°	1502	1281	1086
70°	1237	1122	923
75°	984	859	900
80°	661	620	578
85°	412	494	576

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2176 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	214.6	4.7
10°-20°	589.0	13.0
20°-30°	815.4	18.0
30°-40°	869.5	19.2
40°-50°	793.2	17.5
50°-60°	621.4	13.7
60°-70°	405.0	8.9
70°-80°	179.4	4.0
80°-90°	38.5	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°	1619.0	35.8
0°-40°	2488.4	55.0
0°-60°	3903.0	86.2
0°-90°	4526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4526.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2306	2306	2306	2306	2306	
5°	2266	2263	2263	2260	2260	215
15°	2119	2119	2098	2076	2068	596
25°	1836	1826	1796	1732	1684	843
35°	1490	1479	1407	1301	1269	931
45°	1143	1119	1024	938	901	881
55°	794	770	698	616	584	712
65°	472	445	402	410	341	465
75°	189	176	165	157	173	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2305.5	2305.5	2305.5	2305.5	2305.5
2.5°	2289.5	2289.5	2289.5	2286.8	2286.8
5°	2265.5	2262.8	2262.8	2260.2	2260.2
7.5°	2246.8	2244.2	2241.5	2238.9	2233.5
10°	2220.2	2220.2	2217.5	2204.2	2201.5
12.5°	2177.5	2174.9	2164.2	2145.6	2140.2
15°	2118.9	2118.9	2097.6	2076.3	2068.3
17.5°	2054.9	2052.3	2025.6	2004.3	1993.6
20°	1985.6	1980.3	1953.7	1919.0	1900.4
22.5°	1908.4	1908.4	1876.4	1831.1	1812.4
25°	1836.4	1825.7	1796.4	1732.4	1684.5
27.5°	1753.8	1737.8	1705.8	1615.2	1559.2
30°	1663.1	1655.2	1609.8	1492.6	1449.9
32.5°	1577.9	1564.5	1516.6	1394.0	1359.3
35°	1489.9	1479.2	1407.3	1300.7	1268.7
37.5°	1401.9	1388.6	1298.0	1212.7	1172.7
40°	1314.0	1298.0	1199.4	1122.1	1079.4
42.5°	1231.4	1210.0	1114.1	1031.5	983.5
45°	1143.4	1119.4	1023.5	938.2	900.9
47.5°	1055.5	1034.1	946.2	858.2	815.6
50°	962.2	943.5	863.6	775.6	730.3
52.5°	884.9	855.6	778.3	690.3	653.0
55°	794.3	770.3	698.3	615.7	583.7
57.5°	711.6	687.6	621.0	543.7	517.1
60°	634.3	599.7	543.7	477.1	455.8
62.5°	549.1	522.4	474.4	418.5	445.1
65°	471.8	445.1	402.5	410.5	341.2
67.5°	386.5	373.1	335.8	298.5	287.9
70°	314.5	298.5	285.2	245.2	234.5
72.5°	250.5	234.5	215.9	194.6	186.6
75°	189.2	175.9	165.2	157.3	173.2
77.5°	130.6	125.3	117.3	109.3	106.6
80°	85.3	82.6	80.0	77.3	74.6
82.5°	50.6	50.6	50.6	50.6	50.6
85°	26.7	29.3	32.0	34.6	37.3
87.5°	16.0	16.0	18.7	21.3	24.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)