

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: P562777

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-82-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562777  
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-LD4-2LO-40-UNV-82-88-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

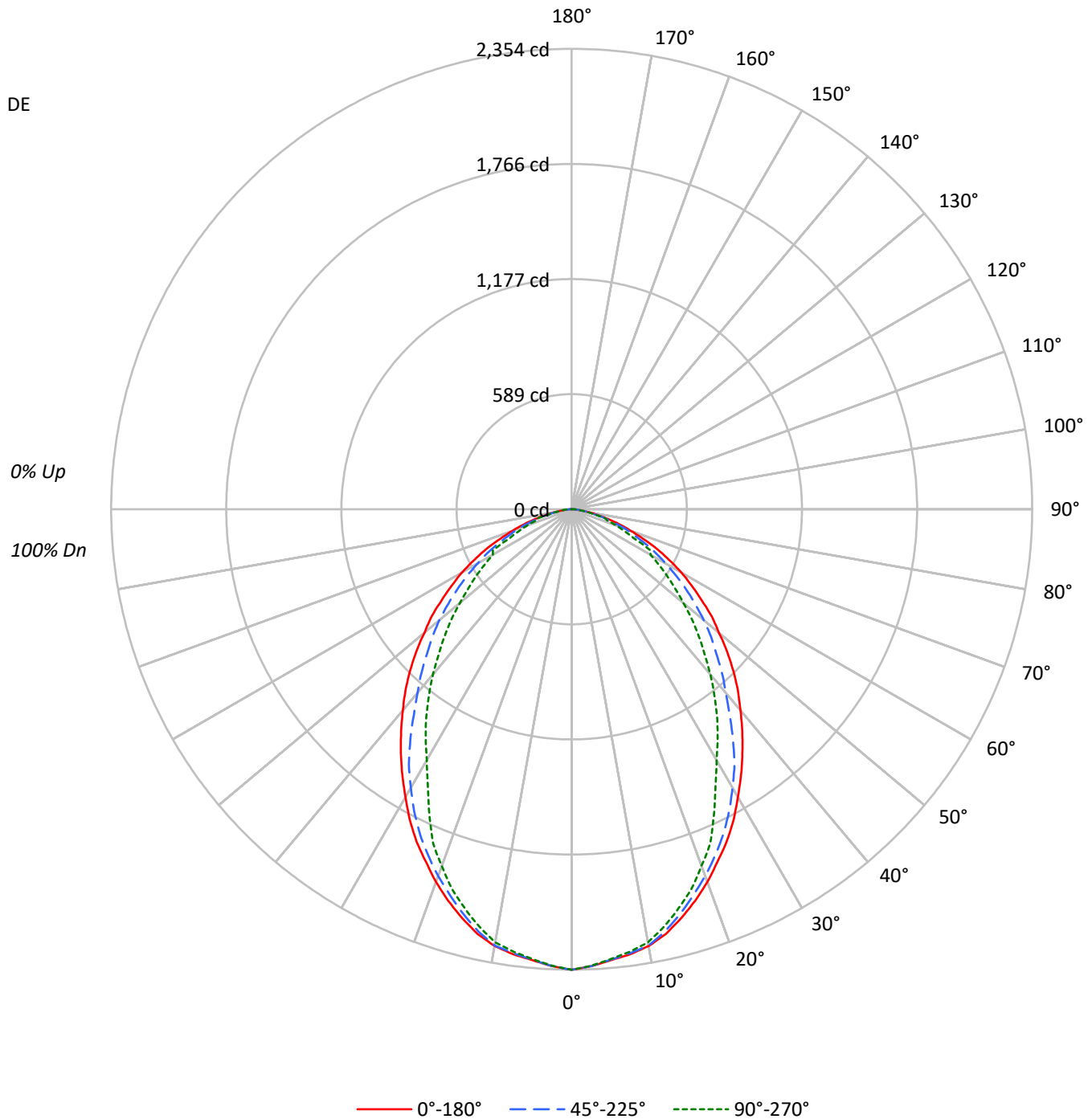
Lumens per Lamp: N/A  
Luminaire Lumens: 4622.0 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3168	3168	3168
5°	3125	3121	3117
10°	3098	3094	3072
15°	3014	2984	2942
20°	2903	2857	2779
25°	2784	2723	2554
30°	2639	2554	2300
35°	2499	2360	2128
40°	2357	2151	1936
45°	2222	1989	1751
50°	2057	1846	1561
55°	1903	1673	1398
60°	1743	1494	1252
65°	1534	1309	1109
70°	1264	1146	942
75°	1005	878	920
80°	675	633	590
85°	420	505	588

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2222 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.2	4.7
10°-20°	601.5	13.0
20°-30°	832.7	18.0
30°-40°	887.9	19.2
40°-50°	810.0	17.5
50°-60°	634.6	13.7
60°-70°	413.6	8.9
70°-80°	183.2	4.0
80°-90°	39.3	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°	1653.3	35.8
0°-40°	2541.2	55.0
0°-60°	3985.8	86.2
0°-90°	4622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4622.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2354	2354	2354	2354	2354	
5°	2314	2311	2311	2308	2308	220
15°	2164	2164	2142	2120	2112	608
25°	1875	1864	1834	1769	1720	861
35°	1522	1511	1437	1328	1296	951
45°	1168	1143	1045	958	920	899
55°	811	787	713	629	596	727
65°	482	454	411	419	348	475
75°	193	180	169	161	177	207
85°	27	30	33	35	38	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2354.4	2354.4	2354.4	2354.4	2354.4
2.5°	2338.1	2338.1	2338.1	2335.3	2335.3
5°	2313.6	2310.8	2310.8	2308.1	2308.1
7.5°	2294.5	2291.8	2289.1	2286.3	2280.9
10°	2267.3	2267.3	2264.6	2251.0	2248.2
12.5°	2223.7	2221.0	2210.1	2191.1	2185.6
15°	2163.9	2163.9	2142.1	2120.3	2112.1
17.5°	2098.5	2095.8	2068.6	2046.8	2035.9
20°	2027.8	2022.3	1995.1	1959.7	1940.7
22.5°	1948.8	1948.8	1916.2	1869.9	1850.8
25°	1875.3	1864.5	1834.5	1769.2	1720.2
27.5°	1791.0	1774.6	1742.0	1649.4	1592.3
30°	1698.4	1690.3	1644.0	1524.2	1480.7
32.5°	1611.3	1597.7	1548.7	1423.5	1388.1
35°	1521.5	1510.6	1437.1	1328.3	1295.6
37.5°	1431.7	1418.1	1325.5	1238.4	1197.6
40°	1341.9	1325.5	1224.8	1145.9	1102.3
42.5°	1257.5	1235.7	1137.7	1053.3	1004.4
45°	1167.7	1143.2	1045.2	958.1	920.0
47.5°	1077.8	1056.1	966.3	876.4	832.9
50°	982.6	963.5	881.9	792.1	745.8
52.5°	903.6	873.7	794.8	705.0	666.8
55°	811.1	786.6	713.1	628.7	596.1
57.5°	726.7	702.2	634.2	555.3	528.0
60°	647.8	612.4	555.3	487.2	465.4
62.5°	560.7	533.5	484.5	427.3	454.5
65°	481.8	454.5	411.0	419.2	348.4
67.5°	394.7	381.1	343.0	304.8	294.0
70°	321.2	304.8	291.2	250.4	239.5
72.5°	255.9	239.5	220.5	198.7	190.5
75°	193.3	179.6	168.8	160.6	176.9
77.5°	133.4	127.9	119.8	111.6	108.9
80°	87.1	84.4	81.7	78.9	76.2
82.5°	51.7	51.7	51.7	51.7	51.7
85°	27.2	29.9	32.7	35.4	38.1
87.5°	16.3	16.3	19.1	21.8	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)