

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: P590141

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-81-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590141  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2HI-35-UNV-81-84-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

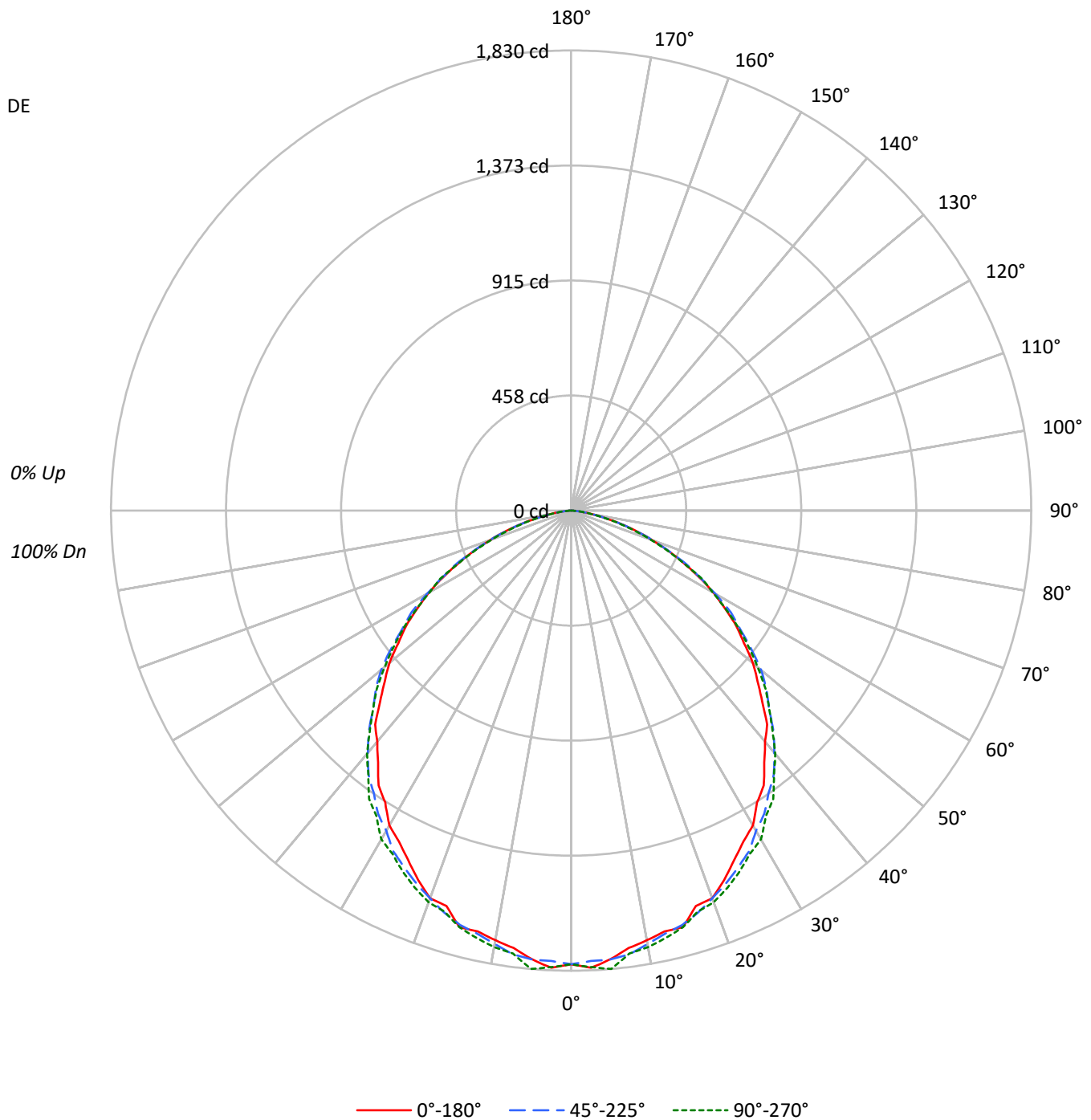
Lumens per Lamp: N/A  
Luminaire Lumens: 4547.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4855	4855	4855
5°	4839	4841	4943
10°	4741	4782	4816
15°	4778	4752	4779
20°	4698	4698	4747
25°	4553	4653	4704
30°	4491	4570	4691
35°	4385	4500	4600
40°	4214	4417	4437
45°	4087	4232	4238
50°	3952	4131	4052
55°	3766	3839	3812
60°	3521	3557	3493
65°	3140	3220	3117
70°	2694	2703	2628
75°	2133	2129	2046
80°	1429	1390	1336
85°	778	769	719

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4341 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.7	3.7
10°-20°	481.0	10.6
20°-30°	720.6	15.8
30°-40°	854.0	18.8
40°-50°	855.6	18.8
50°-60°	726.3	16.0
60°-70°	489.7	10.8
70°-80°	215.2	4.7
80°-90°	35.0	0.8
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°	1371.3	30.2
0°-40°	2225.3	48.9
0°-60°	3807.2	83.7
0°-90°	4547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4547.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1804	1804	1804	1804	1804	
5°	1791	1787	1792	1787	1830	169
15°	1715	1695	1706	1715	1715	478
25°	1534	1542	1567	1588	1584	709
35°	1335	1339	1370	1401	1400	829
45°	1074	1094	1112	1141	1114	831
55°	803	797	818	813	812	714
65°	493	487	506	486	490	490
75°	205	201	205	190	197	220
85°	25	24	25	24	23	36
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1804.1	1804.1	1804.1	1804.1	1804.1
2.5°	1819.7	1806.0	1793.2	1808.1	1817.2
5°	1791.3	1787.1	1792.0	1786.7	1829.8
7.5°	1754.5	1770.6	1779.9	1774.1	1776.6
10°	1735.0	1729.4	1750.1	1764.5	1762.4
12.5°	1714.0	1722.4	1723.5	1739.1	1740.5
15°	1715.2	1695.4	1705.8	1714.7	1715.4
17.5°	1648.5	1670.0	1677.2	1697.4	1672.3
20°	1640.4	1624.8	1640.4	1661.1	1657.8
22.5°	1590.3	1572.8	1606.4	1624.8	1623.6
25°	1533.5	1541.8	1567.0	1587.5	1584.2
27.5°	1483.6	1493.4	1529.3	1557.4	1539.3
30°	1445.2	1440.3	1470.6	1495.7	1509.7
32.5°	1376.5	1394.2	1429.6	1454.5	1441.2
35°	1334.8	1338.7	1369.7	1401.4	1400.4
37.5°	1261.8	1280.2	1323.8	1332.7	1324.5
40°	1199.7	1218.1	1257.4	1267.0	1263.0
42.5°	1153.8	1157.0	1190.8	1201.7	1184.3
45°	1073.9	1093.9	1112.1	1140.7	1113.7
47.5°	1005.8	1015.2	1054.3	1062.0	1047.8
50°	944.1	947.4	986.7	977.2	967.9
52.5°	866.5	880.3	902.4	900.6	889.6
55°	802.7	797.4	818.3	812.7	812.5
57.5°	726.1	735.4	752.6	743.8	729.6
60°	654.3	654.6	660.9	650.8	649.0
62.5°	574.4	577.2	578.6	566.3	586.3
65°	493.1	486.6	505.7	486.4	489.6
67.5°	418.4	421.6	419.8	407.6	412.3
70°	342.4	346.6	343.6	329.8	334.0
72.5°	273.0	267.9	271.1	253.9	261.8
75°	205.2	201.0	204.8	190.3	196.8
77.5°	139.8	143.0	140.7	133.0	137.4
80°	92.2	89.7	89.7	85.3	86.2
82.5°	53.8	51.2	50.5	49.2	51.2
85°	25.2	24.5	24.9	24.2	23.3
87.5°	9.1	9.3	9.3	8.9	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)