

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: P590630

Luminaire Tested: FSR-24-2-LD4-3STD-35-UNV-82-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590630  
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-LD4-3STD-35-UNV-82-85-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

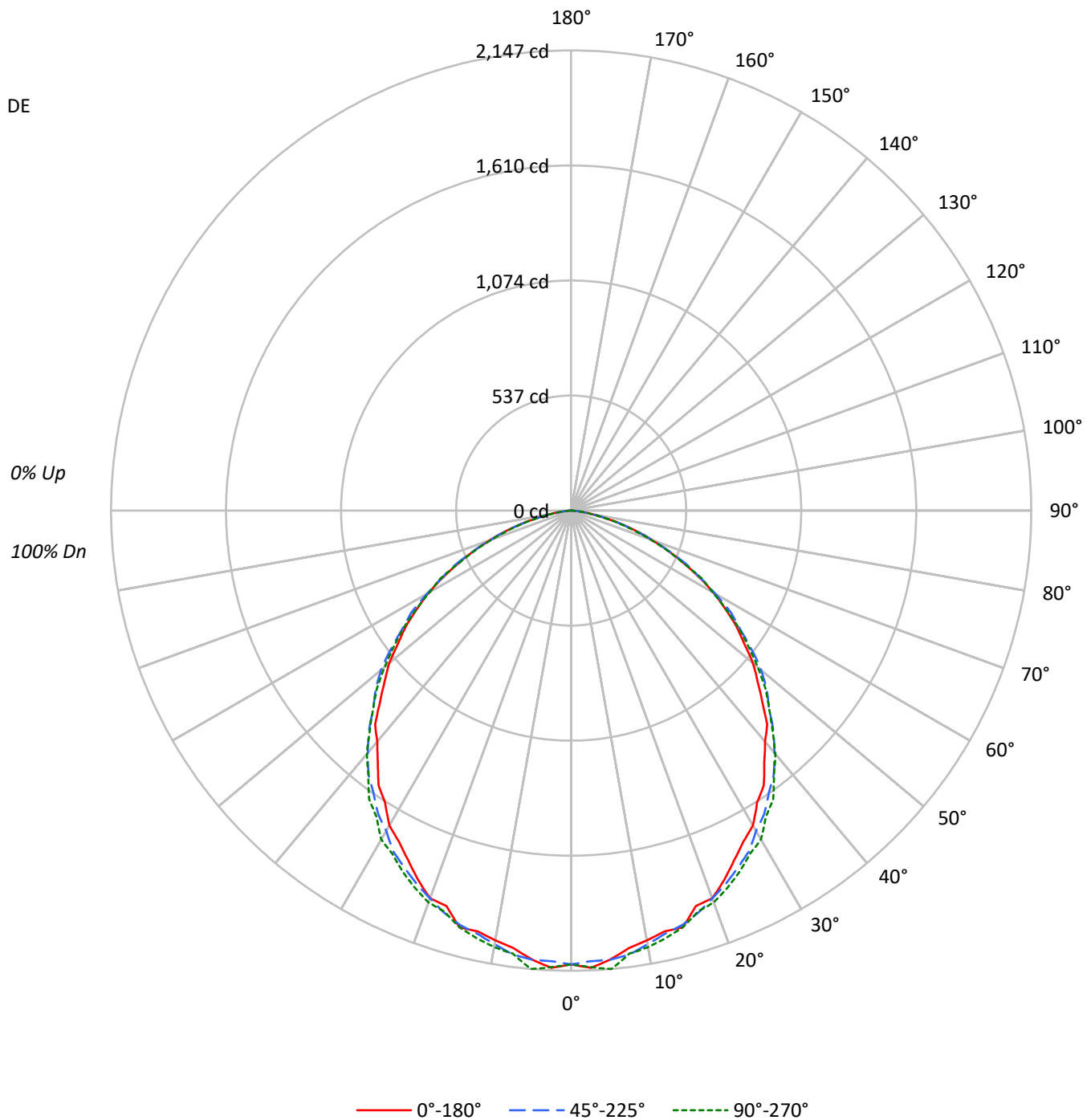
Lumens per Lamp: N/A  
Luminaire Lumens: 5336.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5697	5697	5697
5°	5679	5681	5800
10°	5563	5612	5652
15°	5607	5577	5608
20°	5513	5513	5571
25°	5343	5460	5520
30°	5270	5362	5505
35°	5146	5280	5399
40°	4945	5184	5207
45°	4796	4966	4974
50°	4638	4848	4755
55°	4419	4505	4473
60°	4133	4174	4099
65°	3685	3779	3659
70°	3161	3172	3084
75°	2504	2498	2402
80°	1678	1630	1567
85°	911	902	843

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5095 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.2	3.7
10°-20°	564.4	10.6
20°-30°	845.6	15.8
30°-40°	1002.2	18.8
40°-50°	1004.1	18.8
50°-60°	852.3	16.0
60°-70°	574.6	10.8
70°-80°	252.5	4.7
80°-90°	41.0	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°	1609.2	30.2
0°-40°	2611.4	48.9
0°-60°	4467.8	83.7
0°-90°	5336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5336.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2117	2117	2117	2117	2117	
5°	2102	2097	2103	2097	2147	198
15°	2013	1990	2002	2012	2013	561
25°	1800	1809	1839	1863	1859	832
35°	1566	1571	1607	1644	1644	973
45°	1260	1284	1305	1339	1307	975
55°	942	936	960	954	954	838
65°	579	571	594	571	575	576
75°	241	236	240	223	231	258
85°	30	29	29	28	27	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2117.2	2117.2	2117.2	2117.2	2117.2
2.5°	2135.5	2119.4	2104.3	2121.8	2132.5
5°	2102.2	2097.2	2103.0	2096.7	2147.3
7.5°	2059.0	2077.8	2088.8	2081.9	2084.9
10°	2036.0	2029.4	2053.8	2070.7	2068.3
12.5°	2011.4	2021.2	2022.6	2040.9	2042.6
15°	2012.8	1989.5	2001.8	2012.2	2013.0
17.5°	1934.6	1959.7	1968.2	1992.0	1962.5
20°	1925.0	1906.7	1925.0	1949.3	1945.5
22.5°	1866.2	1845.7	1885.1	1906.7	1905.3
25°	1799.5	1809.4	1838.9	1863.0	1859.1
27.5°	1741.0	1752.5	1794.6	1827.7	1806.4
30°	1695.9	1690.2	1725.7	1755.3	1771.7
32.5°	1615.3	1636.1	1677.6	1706.9	1691.3
35°	1566.4	1571.0	1607.4	1644.5	1643.5
37.5°	1480.8	1502.4	1553.5	1563.9	1554.3
40°	1407.8	1429.4	1475.6	1486.8	1482.2
42.5°	1354.0	1357.8	1397.4	1410.3	1389.8
45°	1260.2	1283.7	1305.0	1338.7	1306.9
47.5°	1180.4	1191.3	1237.2	1246.3	1229.6
50°	1107.9	1111.8	1158.0	1146.8	1135.8
52.5°	1016.9	1033.0	1059.0	1056.8	1044.0
55°	942.0	935.7	960.3	953.8	953.5
57.5°	852.1	863.0	883.2	872.8	856.2
60°	767.9	768.1	775.5	763.8	761.6
62.5°	674.1	677.4	679.0	664.5	688.1
65°	578.7	571.1	593.5	570.8	574.6
67.5°	491.0	494.8	492.6	478.4	483.9
70°	401.8	406.8	403.2	387.1	392.0
72.5°	320.4	314.4	318.2	298.0	307.3
75°	240.8	235.9	240.3	223.3	231.0
77.5°	164.0	167.8	165.1	156.1	161.3
80°	108.3	105.2	105.2	100.1	101.1
82.5°	63.1	60.1	59.3	57.7	60.1
85°	29.5	28.7	29.2	28.4	27.3
87.5°	10.7	10.9	10.9	10.4	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)