

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: P562780

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562780  
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-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

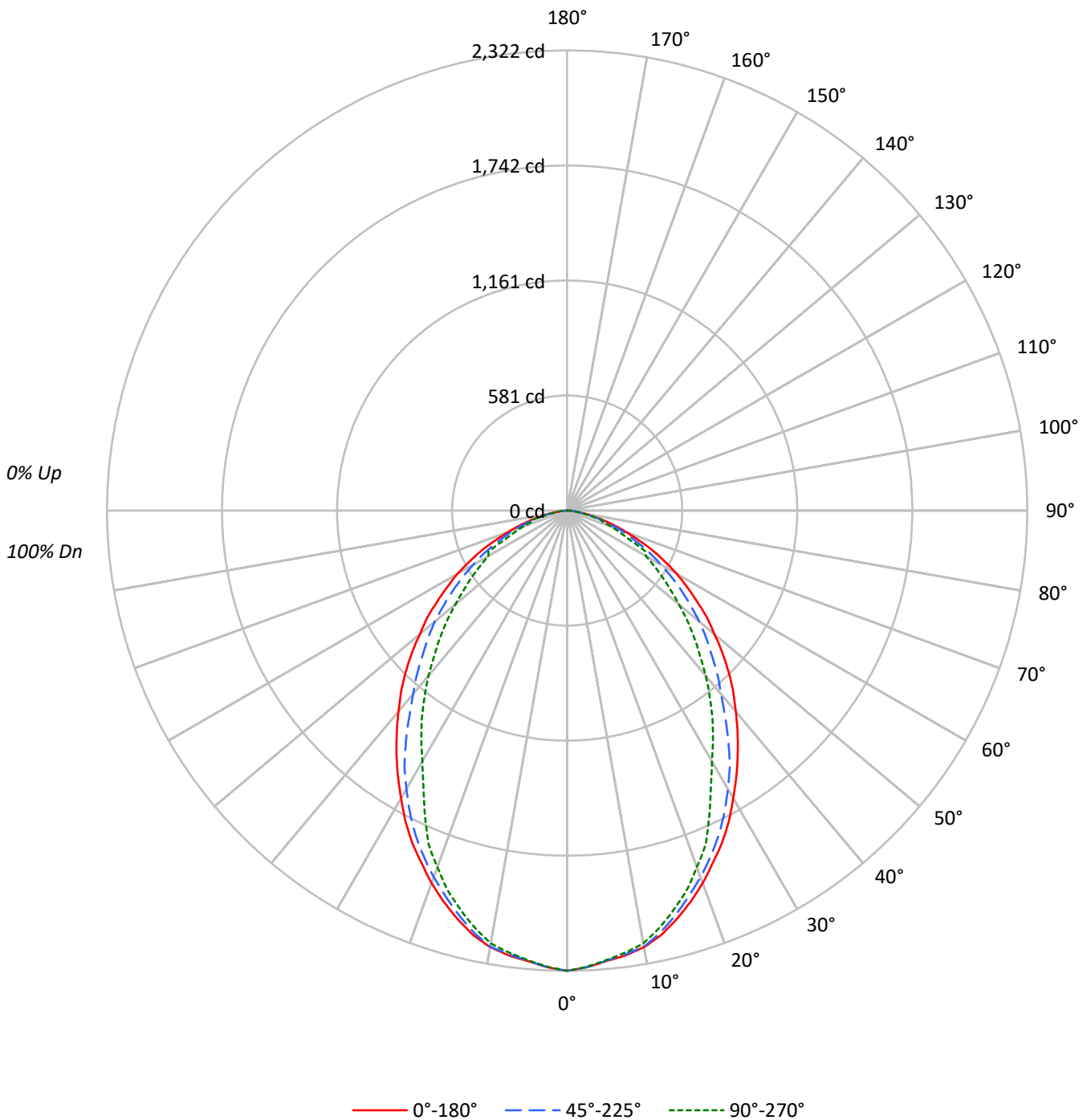
Lumens per Lamp: N/A  
Luminaire Lumens: 4559.0 lumens  
Efficiency: N/A  
Efficacy: 97.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3125	3125	3125
5°	3082	3078	3075
10°	3055	3052	3030
15°	2973	2943	2902
20°	2864	2818	2741
25°	2746	2686	2519
30°	2603	2519	2269
35°	2465	2328	2099
40°	2325	2122	1910
45°	2192	1962	1727
50°	2029	1821	1540
55°	1877	1650	1379
60°	1720	1474	1235
65°	1513	1291	1094
70°	1246	1130	930
75°	991	866	907
80°	666	624	583
85°	414	497	580

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2192 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.2	4.7
10°-20°	593.3	13.0
20°-30°	821.3	18.0
30°-40°	875.8	19.2
40°-50°	799.0	17.5
50°-60°	625.9	13.7
60°-70°	408.0	8.9
70°-80°	180.8	4.0
80°-90°	38.8	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°	1630.8	35.8
0°-40°	2506.6	55.0
0°-60°	3931.5	86.2
0°-90°	4559.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4559.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2322	2322	2322	2322	2322	
5°	2282	2279	2279	2277	2277	217
15°	2134	2134	2113	2091	2083	600
25°	1850	1839	1810	1745	1697	849
35°	1501	1490	1418	1310	1278	938
45°	1152	1128	1031	945	907	887
55°	800	776	703	620	588	718
65°	475	448	405	413	344	468
75°	191	177	166	158	174	204
85°	27	30	32	35	38	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2322.3	2322.3	2322.3	2322.3	2322.3
2.5°	2306.2	2306.2	2306.2	2303.5	2303.5
5°	2282.0	2279.3	2279.3	2276.7	2276.7
7.5°	2263.2	2260.5	2257.9	2255.2	2249.8
10°	2236.4	2236.4	2233.7	2220.3	2217.6
12.5°	2193.4	2190.7	2180.0	2161.2	2155.8
15°	2134.4	2134.4	2112.9	2091.4	2083.4
17.5°	2069.9	2067.2	2040.4	2018.9	2008.2
20°	2000.1	1994.8	1967.9	1933.0	1914.2
22.5°	1922.3	1922.3	1890.1	1844.4	1825.6
25°	1849.8	1839.0	1809.5	1745.1	1696.8
27.5°	1766.6	1750.4	1718.2	1626.9	1570.6
30°	1675.3	1667.2	1621.6	1503.5	1460.5
32.5°	1589.4	1575.9	1527.6	1404.1	1369.2
35°	1500.8	1490.0	1417.5	1310.1	1277.9
37.5°	1412.2	1398.7	1307.5	1221.6	1181.3
40°	1323.6	1307.5	1208.1	1130.3	1087.3
42.5°	1240.3	1218.9	1122.2	1039.0	990.7
45°	1151.8	1127.6	1030.9	945.0	907.4
47.5°	1063.2	1041.7	953.1	864.5	821.5
50°	969.2	950.4	869.9	781.3	735.6
52.5°	891.3	861.8	783.9	695.3	657.8
55°	800.1	775.9	703.4	620.2	588.0
57.5°	716.8	692.7	625.5	547.7	520.8
60°	639.0	604.1	547.7	480.6	459.1
62.5°	553.1	526.2	477.9	421.5	448.4
65°	475.2	448.4	405.4	413.4	343.6
67.5°	389.3	375.9	338.3	300.7	290.0
70°	316.8	300.7	287.3	247.0	236.3
72.5°	252.4	236.3	217.5	196.0	187.9
75°	190.6	177.2	166.5	158.4	174.5
77.5°	131.6	126.2	118.1	110.1	107.4
80°	85.9	83.2	80.5	77.9	75.2
82.5°	51.0	51.0	51.0	51.0	51.0
85°	26.8	29.5	32.2	34.9	37.6
87.5°	16.1	16.1	18.8	21.5	24.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)