

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: P561456

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561456  
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-12-4-LD4-2HI-50-UNV-80-84-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

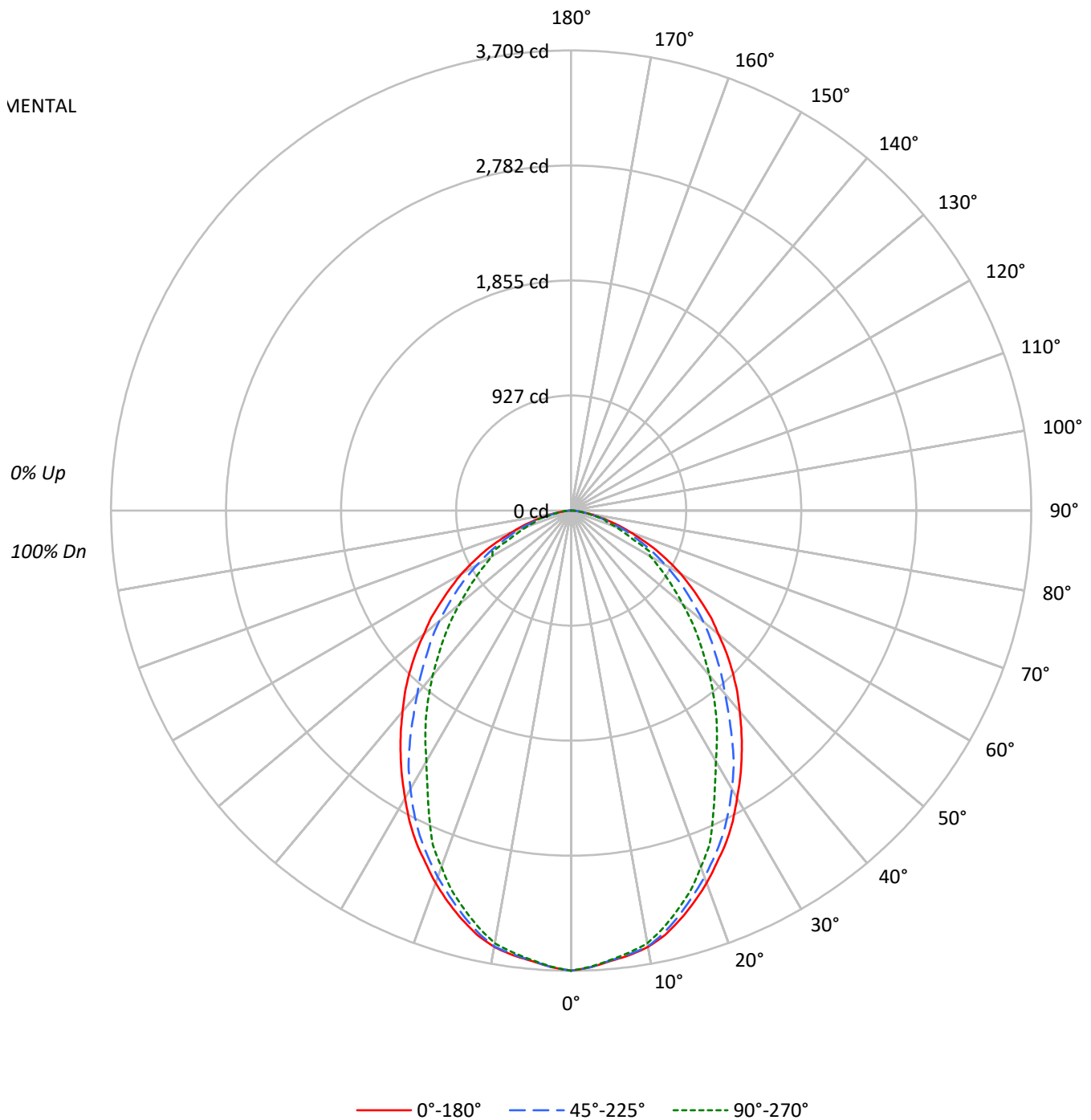
Lumens per Lamp: N/A  
Luminaire Lumens: 7281.0 lumens  
Efficiency: N/A  
Efficacy: 84.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	9980	9980	9980
5°	9845	9833	9822
10°	9759	9748	9677
15°	9496	9401	9269
20°	9147	9000	8755
25°	8772	8581	8046
30°	8314	8047	7248
35°	7874	7437	6705
40°	7425	6778	6100
45°	7000	6266	5515
50°	6480	5816	4918
55°	5994	5271	4405
60°	5492	4708	3946
65°	4832	4122	3494
70°	3980	3610	2969
75°	3165	2764	2898
80°	2126	1993	1861
85°	1325	1590	1853

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7000 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	345.2	4.7
10°-20°	947.5	13.0
20°-30°	1311.7	18.0
30°-40°	1398.7	19.2
40°-50°	1276.0	17.5
50°-60°	999.7	13.7
60°-70°	651.5	8.9
70°-80°	288.6	4.0
80°-90°	62.0	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°	2604.5	35.8
0°-40°	4003.2	55.0
0°-60°	6278.8	86.2
0°-90°	7281.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7281.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3709	3709	3709	3709	3709	
5°	3644	3640	3640	3636	3636	346
15°	3409	3409	3374	3340	3327	958
25°	2954	2937	2890	2787	2710	1356
35°	2397	2380	2264	2092	2041	1498
45°	1839	1801	1646	1509	1449	1417
55°	1278	1239	1123	990	939	1146
65°	759	716	647	660	549	748
75°	304	283	266	253	279	326
85°	43	47	52	56	60	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3708.8	3708.8	3708.8	3708.8	3708.8
2.5°	3683.1	3683.1	3683.1	3678.8	3678.8
5°	3644.5	3640.2	3640.2	3636.0	3636.0
7.5°	3614.5	3610.2	3605.9	3601.7	3593.1
10°	3571.6	3571.6	3567.4	3545.9	3541.6
12.5°	3503.0	3498.7	3481.6	3451.6	3443.0
15°	3408.7	3408.7	3374.4	3340.1	3327.2
17.5°	3305.8	3301.5	3258.6	3224.3	3207.2
20°	3194.3	3185.7	3142.9	3087.1	3057.1
22.5°	3070.0	3070.0	3018.5	2945.6	2915.6
25°	2954.2	2937.1	2889.9	2787.0	2709.8
27.5°	2821.3	2795.6	2744.1	2598.3	2508.3
30°	2675.5	2662.6	2589.8	2401.1	2332.5
32.5°	2538.3	2516.9	2439.7	2242.5	2186.7
35°	2396.8	2379.7	2263.9	2092.4	2040.9
37.5°	2255.3	2233.9	2088.1	1950.9	1886.6
40°	2113.8	2088.1	1929.5	1805.1	1736.5
42.5°	1980.9	1946.6	1792.3	1659.3	1582.2
45°	1839.4	1800.8	1646.5	1509.3	1449.2
47.5°	1697.9	1663.6	1522.1	1380.6	1312.0
50°	1547.9	1517.8	1389.2	1247.7	1174.8
52.5°	1423.5	1376.3	1252.0	1110.5	1050.5
55°	1277.7	1239.1	1123.4	990.5	939.0
57.5°	1144.8	1106.2	999.0	874.7	831.8
60°	1020.5	964.7	874.7	767.5	733.2
62.5°	883.3	840.4	763.2	673.2	716.0
65°	758.9	716.0	647.4	660.3	548.8
67.5°	621.7	600.3	540.2	480.2	463.1
70°	505.9	480.2	458.8	394.5	377.3
72.5°	403.0	377.3	347.3	313.0	300.1
75°	304.4	283.0	265.8	253.0	278.7
77.5°	210.1	201.5	188.7	175.8	171.5
80°	137.2	132.9	128.6	124.3	120.1
82.5°	81.5	81.5	81.5	81.5	81.5
85°	42.9	47.2	51.5	55.7	60.0
87.5°	25.7	25.7	30.0	34.3	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)