

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: P561399

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561399  
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-40-UNV-80-87-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

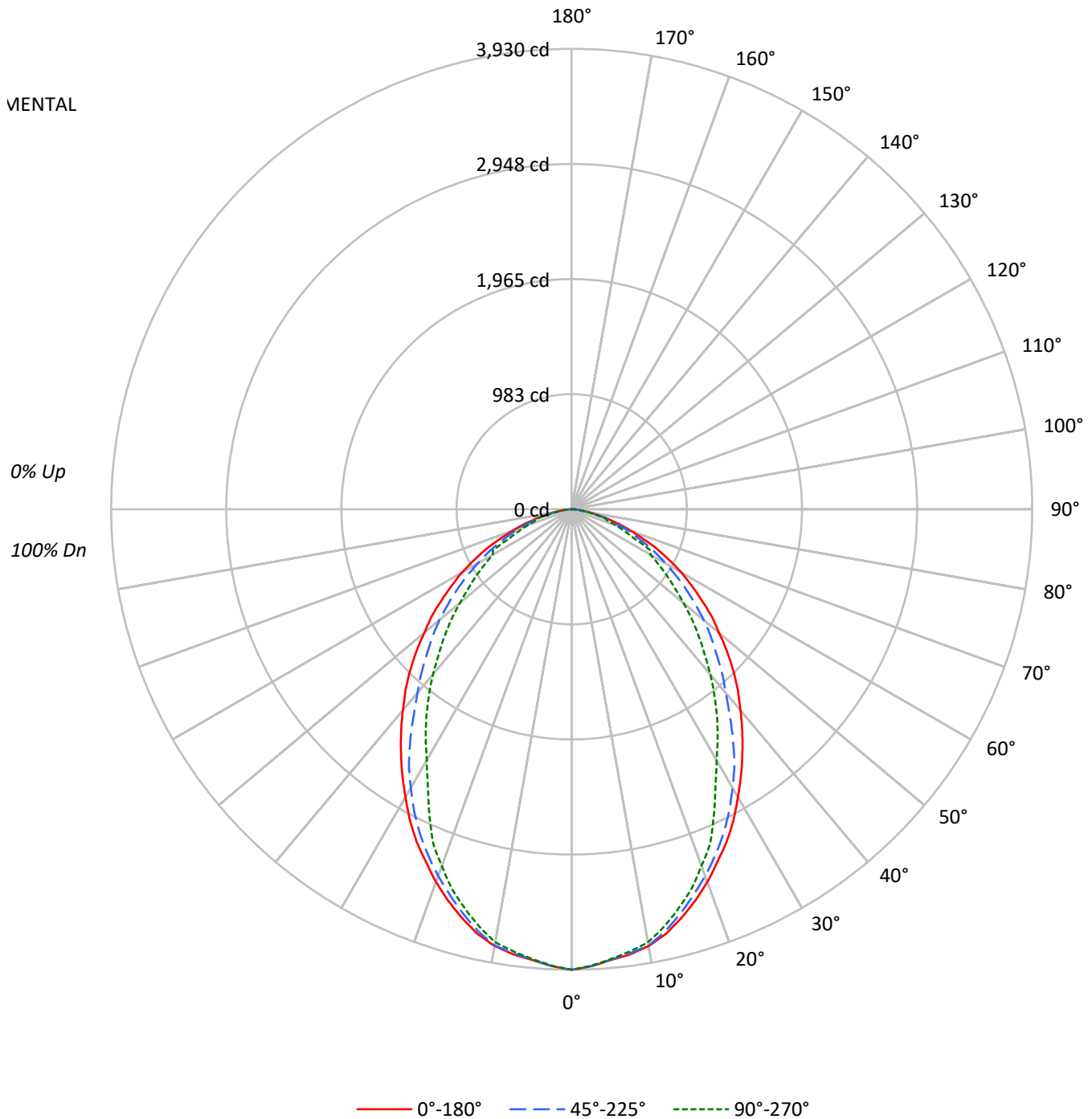
Lumens per Lamp: N/A  
Luminaire Lumens: 7716.0 lumens  
Efficiency: N/A  
Efficacy: 89.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	10577	10577	10577
5°	10433	10421	10408
10°	10342	10330	10256
15°	10064	9962	9823
20°	9694	9538	9278
25°	9296	9093	8527
30°	8810	8528	7681
35°	8344	7882	7105
40°	7869	7183	6465
45°	7418	6640	5845
50°	6867	6163	5212
55°	6353	5585	4669
60°	5820	4989	4182
65°	5121	4369	3703
70°	4219	3825	3146
75°	3354	2929	3071
80°	2253	2112	1971
85°	1402	1683	1964

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7418 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	365.9	4.7
10°-20°	1004.1	13.0
20°-30°	1390.1	18.0
30°-40°	1482.3	19.2
40°-50°	1352.3	17.5
50°-60°	1059.4	13.7
60°-70°	690.4	8.9
70°-80°	305.9	4.0
80°-90°	65.7	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°	2760.1	35.8
0°-40°	4242.3	55.0
0°-60°	6654.0	86.2
0°-90°	7716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7716.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3930	3930	3930	3930	3930	
5°	3862	3858	3858	3853	3853	367
15°	3612	3612	3576	3540	3526	1016
25°	3131	3112	3063	2954	2872	1437
35°	2540	2522	2399	2217	2163	1588
45°	1949	1908	1745	1599	1536	1502
55°	1354	1313	1190	1050	995	1215
65°	804	759	686	700	582	793
75°	323	300	282	268	295	346
85°	45	50	54	59	64	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3930.4	3930.4	3930.4	3930.4	3930.4
2.5°	3903.2	3903.2	3903.2	3898.6	3898.6
5°	3862.3	3857.7	3857.7	3853.2	3853.2
7.5°	3830.5	3825.9	3821.4	3816.8	3807.7
10°	3785.0	3785.0	3780.5	3757.8	3753.2
12.5°	3712.3	3707.8	3689.6	3657.8	3648.7
15°	3612.4	3612.4	3576.0	3539.7	3526.0
17.5°	3503.3	3498.8	3453.3	3417.0	3398.8
20°	3385.2	3376.1	3330.6	3271.6	3239.8
22.5°	3253.4	3253.4	3198.9	3121.6	3089.8
25°	3130.7	3112.5	3062.6	2953.5	2871.7
27.5°	2989.9	2962.6	2908.1	2753.6	2658.2
30°	2835.4	2821.7	2744.5	2544.6	2471.9
32.5°	2690.0	2667.2	2585.4	2376.4	2317.4
35°	2540.0	2521.8	2399.2	2217.4	2162.9
37.5°	2390.1	2367.3	2212.9	2067.5	1999.3
40°	2240.1	2212.9	2044.7	1913.0	1840.3
42.5°	2099.3	2062.9	1899.3	1758.5	1676.7
45°	1949.3	1908.4	1744.8	1599.4	1535.8
47.5°	1799.4	1763.0	1613.1	1463.1	1390.4
50°	1640.3	1608.5	1472.2	1322.3	1245.0
52.5°	1508.6	1458.6	1326.8	1176.9	1113.2
55°	1354.1	1313.2	1190.5	1049.6	995.1
57.5°	1213.2	1172.3	1058.7	926.9	881.5
60°	1081.4	1022.4	926.9	813.3	777.0
62.5°	936.0	890.6	808.8	713.4	758.8
65°	804.3	758.8	686.1	699.8	581.6
67.5°	658.9	636.1	572.5	508.9	490.7
70°	536.2	508.9	486.2	418.0	399.9
72.5°	427.1	399.9	368.1	331.7	318.1
75°	322.6	299.9	281.7	268.1	295.4
77.5°	222.6	213.6	199.9	186.3	181.8
80°	145.4	140.9	136.3	131.8	127.2
82.5°	86.3	86.3	86.3	86.3	86.3
85°	45.4	50.0	54.5	59.1	63.6
87.5°	27.3	27.3	31.8	36.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)