

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: P561407

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-80-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561407
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-80-97-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

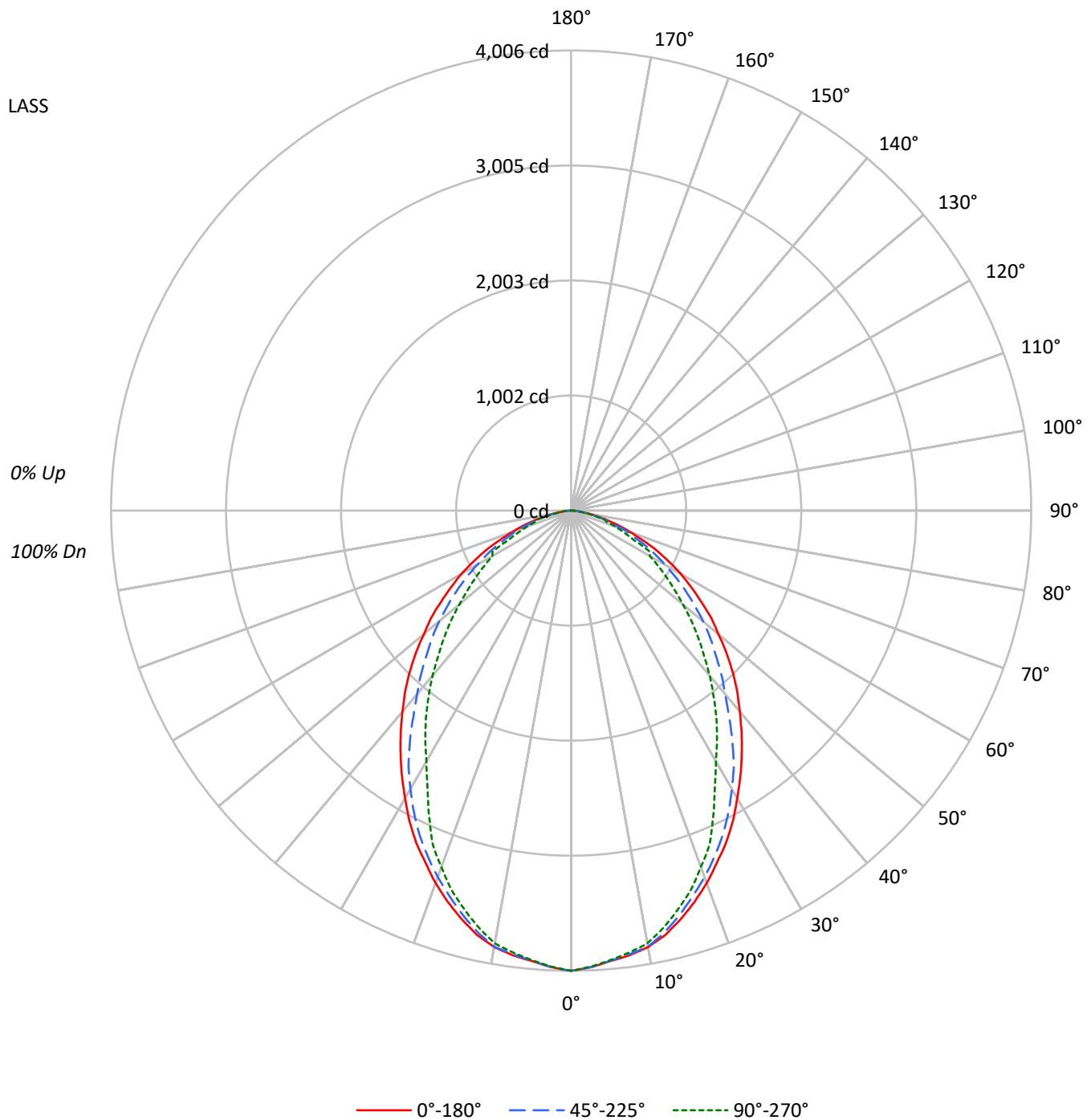
Lumens per Lamp: N/A
Luminaire Lumens: 7865.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	10781	10781	10781
5°	10635	10622	10609
10°	10542	10530	10454
15°	10258	10155	10013
20°	9881	9722	9457
25°	9475	9269	8691
30°	8980	8693	7829
35°	8505	8034	7242
40°	8021	7321	6589
45°	7562	6768	5958
50°	7000	6282	5313
55°	6475	5693	4759
60°	5933	5085	4263
65°	5220	4453	3775
70°	4300	3899	3207
75°	3419	2986	3131
80°	2297	2152	2010
85°	1430	1717	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7562 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	372.9	4.7
10°-20°	1023.5	13.0
20°-30°	1416.9	18.0
30°-40°	1510.9	19.2
40°-50°	1378.4	17.5
50°-60°	1079.8	13.7
60°-70°	703.8	8.9
70°-80°	311.8	4.0
80°-90°	66.9	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°	2813.4	35.8
0°-40°	4324.3	55.0
0°-60°	6782.5	86.2
0°-90°	7865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7865.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4006	4006	4006	4006	4006	
5°	3937	3932	3932	3928	3928	374
15°	3682	3682	3645	3608	3594	1035
25°	3191	3173	3122	3010	2927	1465
35°	2589	2570	2446	2260	2205	1619
45°	1987	1945	1778	1630	1566	1531
55°	1380	1338	1214	1070	1014	1238
65°	820	774	699	713	593	808
75°	329	306	287	273	301	352
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4006.3	4006.3	4006.3	4006.3	4006.3
2.5°	3978.5	3978.5	3978.5	3973.9	3973.9
5°	3936.9	3932.2	3932.2	3927.6	3927.6
7.5°	3904.4	3899.8	3895.2	3890.5	3881.3
10°	3858.1	3858.1	3853.5	3830.3	3825.7
12.5°	3784.0	3779.4	3760.9	3728.4	3719.2
15°	3682.1	3682.1	3645.1	3608.0	3594.1
17.5°	3571.0	3566.3	3520.0	3483.0	3464.4
20°	3450.5	3441.3	3395.0	3334.7	3302.3
22.5°	3316.2	3316.2	3260.6	3181.9	3149.5
25°	3191.2	3172.6	3121.7	3010.5	2927.2
27.5°	3047.6	3019.8	2964.2	2806.7	2709.5
30°	2890.1	2876.2	2797.5	2593.7	2519.6
32.5°	2741.9	2718.7	2635.4	2422.3	2362.1
35°	2589.1	2570.5	2445.5	2260.2	2204.6
37.5°	2436.2	2413.1	2255.6	2107.4	2037.9
40°	2283.4	2255.6	2084.2	1949.9	1875.8
42.5°	2139.8	2102.7	1936.0	1792.4	1709.1
45°	1987.0	1945.3	1778.5	1630.3	1565.5
47.5°	1834.1	1797.1	1644.2	1491.4	1417.3
50°	1672.0	1639.6	1500.6	1347.8	1269.1
52.5°	1537.7	1486.7	1352.4	1199.6	1134.7
55°	1380.2	1338.5	1213.5	1069.9	1014.3
57.5°	1236.6	1195.0	1079.2	944.8	898.5
60°	1102.3	1042.1	944.8	829.1	792.0
62.5°	954.1	907.8	824.4	727.2	773.5
65°	819.8	773.5	699.4	713.3	592.8
67.5°	671.6	648.4	583.6	518.7	500.2
70°	546.5	518.7	495.6	426.1	407.6
72.5°	435.4	407.6	375.2	338.1	324.2
75°	328.8	305.7	287.2	273.3	301.1
77.5°	226.9	217.7	203.8	189.9	185.3
80°	148.2	143.6	138.9	134.3	129.7
82.5°	88.0	88.0	88.0	88.0	88.0
85°	46.3	50.9	55.6	60.2	64.8
87.5°	27.8	27.8	32.4	37.1	41.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)