

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: P561339

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-80-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561339
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-35-UNV-80-94-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8167.0 lumens
Efficiency: N/A
Efficacy: 94.5 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

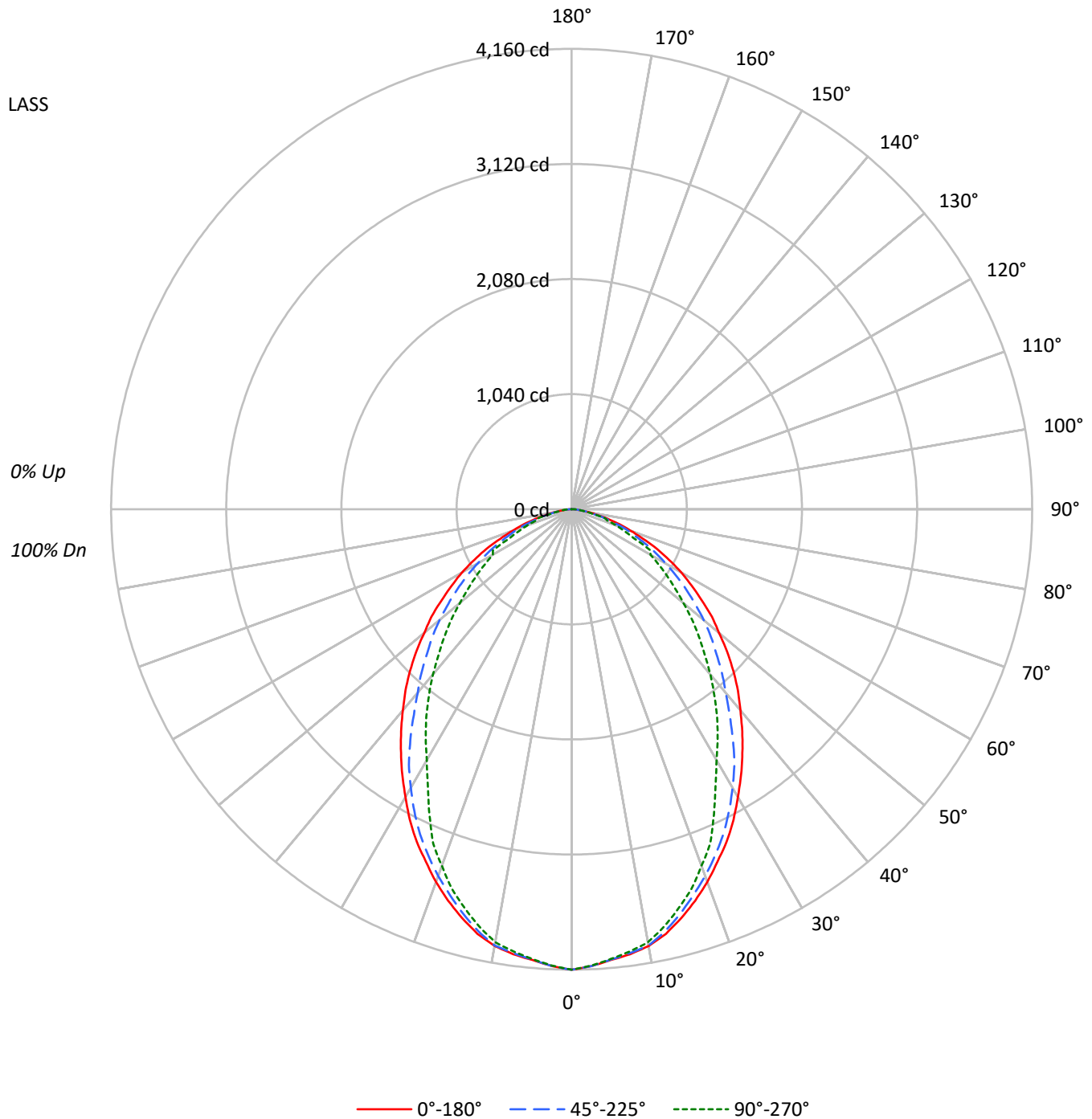
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11195	11195	11195
5°	11043	11030	11017
10°	10947	10934	10855
15°	10652	10545	10397
20°	10261	10095	9820
25°	9839	9625	9025
30°	9325	9026	8130
35°	8832	8342	7521
40°	8329	7602	6842
45°	7852	7028	6186
50°	7268	6524	5517
55°	6724	5912	4942
60°	6160	5280	4426
65°	5421	4624	3920
70°	4465	4049	3330
75°	3551	3100	3250
80°	2385	2236	2087
85°	1485	1782	2078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7852 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.3	4.7
10°-20°	1062.8	13.0
20°-30°	1471.4	18.0
30°-40°	1568.9	19.2
40°-50°	1431.3	17.5
50°-60°	1121.3	13.7
60°-70°	730.8	8.9
70°-80°	323.8	4.0
80°-90°	69.5	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°	2921.4	35.8
0°-40°	4490.3	55.0
0°-60°	7042.9	86.2
0°-90°	8167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4160	4160	4160	4160	4160	
5°	4088	4083	4083	4078	4078	388
15°	3824	3824	3785	3746	3732	1075
25°	3314	3294	3242	3126	3040	1521
35°	2688	2669	2539	2347	2289	1681
45°	2063	2020	1847	1693	1626	1589
55°	1433	1390	1260	1111	1053	1285
65°	851	803	726	741	616	839
75°	342	317	298	284	313	366
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4160.2	4160.2	4160.2	4160.2	4160.2
2.5°	4131.3	4131.3	4131.3	4126.5	4126.5
5°	4088.0	4083.2	4083.2	4078.4	4078.4
7.5°	4054.4	4049.5	4044.7	4039.9	4030.3
10°	4006.3	4006.3	4001.4	3977.4	3972.6
12.5°	3929.3	3924.5	3905.3	3871.6	3862.0
15°	3823.5	3823.5	3785.0	3746.5	3732.1
17.5°	3708.1	3703.3	3655.2	3616.7	3597.5
20°	3583.0	3573.4	3525.3	3462.8	3429.1
22.5°	3443.6	3443.6	3385.8	3304.1	3270.4
25°	3313.7	3294.5	3241.6	3126.1	3039.6
27.5°	3164.6	3135.8	3078.0	2914.5	2813.5
30°	3001.1	2986.7	2904.9	2693.3	2616.3
32.5°	2847.2	2823.1	2736.6	2515.3	2452.8
35°	2688.5	2669.2	2539.4	2347.0	2289.3
37.5°	2529.8	2505.7	2342.2	2188.3	2116.2
40°	2371.1	2342.2	2164.2	2024.8	1947.8
42.5°	2222.0	2183.5	2010.3	1861.3	1774.7
45°	2063.2	2020.0	1846.8	1692.9	1625.6
47.5°	1904.5	1866.1	1707.3	1548.6	1471.7
50°	1736.2	1702.5	1558.3	1399.5	1317.8
52.5°	1596.7	1543.8	1404.4	1245.6	1178.3
55°	1433.2	1389.9	1260.1	1111.0	1053.3
57.5°	1284.1	1240.8	1120.6	981.1	933.0
60°	1144.6	1082.1	981.1	860.9	822.4
62.5°	990.7	942.6	856.1	755.1	803.2
65°	851.3	803.2	726.2	740.7	615.6
67.5°	697.4	673.3	606.0	538.7	519.4
70°	567.5	538.7	514.6	442.5	423.2
72.5°	452.1	423.2	389.6	351.1	336.7
75°	341.5	317.4	298.2	283.8	312.6
77.5°	235.7	226.0	211.6	197.2	192.4
80°	153.9	149.1	144.3	139.5	134.7
82.5°	91.4	91.4	91.4	91.4	91.4
85°	48.1	52.9	57.7	62.5	67.3
87.5°	28.9	28.9	33.7	38.5	43.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)