

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: P561439

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561439
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-82-97-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7471.0 lumens
Efficiency: N/A
Efficacy: 86.5 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

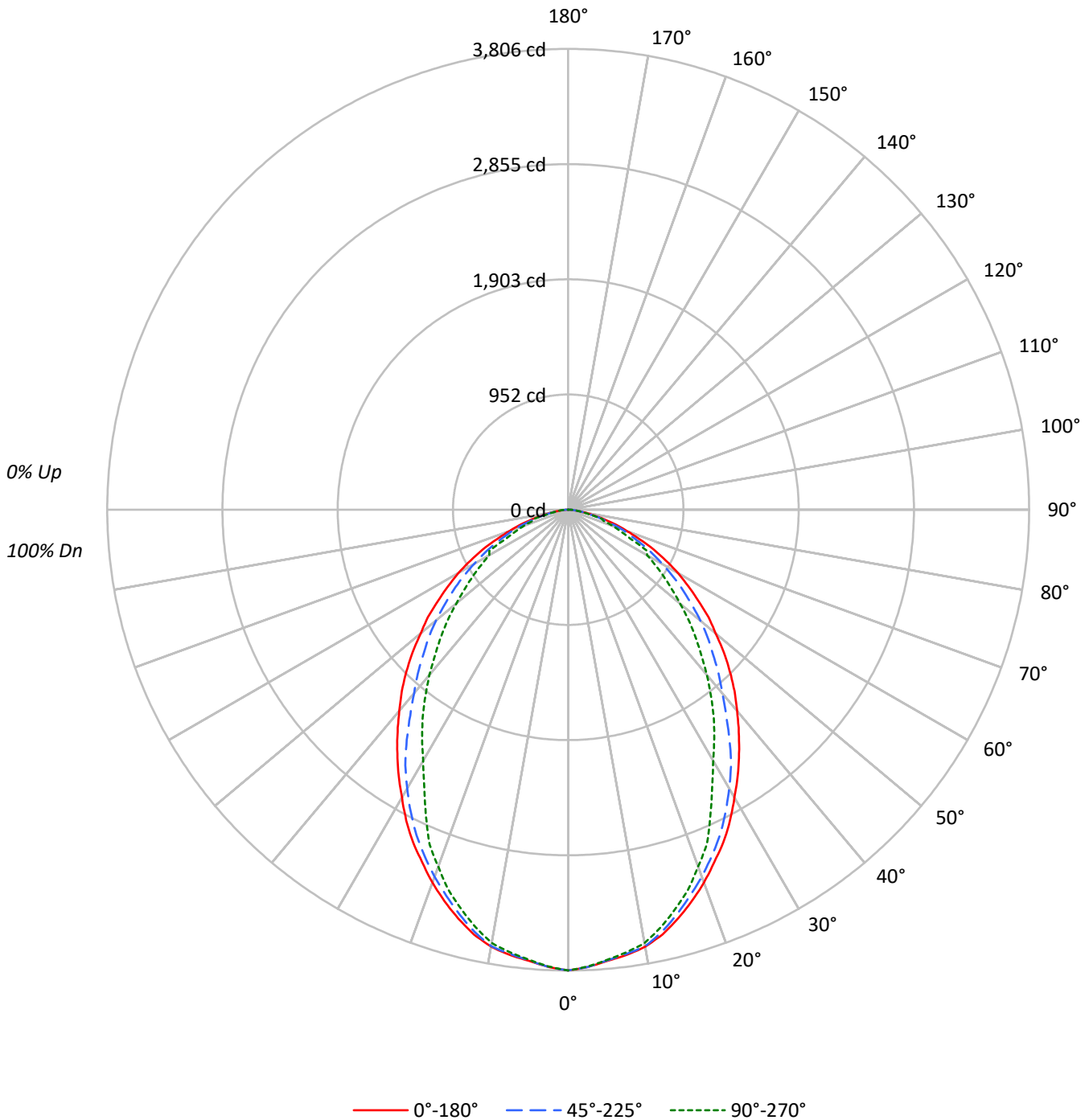
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10241	10241	10241
5°	10102	10090	10078
10°	10014	10002	9930
15°	9744	9646	9511
20°	9386	9235	8983
25°	9000	8804	8256
30°	8530	8257	7437
35°	8079	7631	6880
40°	7619	6955	6259
45°	7183	6429	5659
50°	6649	5968	5047
55°	6151	5408	4520
60°	5635	4830	4049
65°	4958	4230	3585
70°	4084	3704	3046
75°	3248	2836	2974
80°	2182	2046	1909
85°	1359	1630	1902

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7183 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	354.2	4.7
10°-20°	972.2	13.0
20°-30°	1346.0	18.0
30°-40°	1435.2	19.2
40°-50°	1309.3	17.5
50°-60°	1025.8	13.7
60°-70°	668.5	8.9
70°-80°	296.2	4.0
80°-90°	63.6	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°	2672.4	35.8
0°-40°	4107.6	55.0
0°-60°	6442.7	86.2
0°-90°	7471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3806	3806	3806	3806	3806	
5°	3740	3735	3735	3731	3731	355
15°	3498	3498	3462	3427	3414	983
25°	3031	3014	2965	2860	2780	1392
35°	2459	2442	2323	2147	2094	1538
45°	1887	1848	1689	1549	1487	1454
55°	1311	1272	1153	1016	964	1176
65°	779	735	664	678	563	767
75°	312	290	273	260	286	335
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3805.6	3805.6	3805.6	3805.6	3805.6
2.5°	3779.2	3779.2	3779.2	3774.8	3774.8
5°	3739.6	3735.2	3735.2	3730.8	3730.8
7.5°	3708.8	3704.4	3700.0	3695.6	3686.8
10°	3664.8	3664.8	3660.4	3638.4	3634.0
12.5°	3594.4	3590.0	3572.5	3541.7	3532.9
15°	3497.7	3497.7	3462.5	3427.3	3414.1
17.5°	3392.1	3387.7	3343.7	3308.5	3290.9
20°	3277.7	3268.9	3224.9	3167.7	3136.9
22.5°	3150.1	3150.1	3097.3	3022.5	2991.7
25°	3031.3	3013.7	2965.3	2859.7	2780.5
27.5°	2894.9	2868.5	2815.7	2666.1	2573.7
30°	2745.3	2732.1	2657.3	2463.8	2393.4
32.5°	2604.5	2582.5	2503.4	2301.0	2243.8
35°	2459.4	2441.8	2323.0	2147.0	2094.2
37.5°	2314.2	2292.2	2142.6	2001.8	1935.8
40°	2169.0	2142.6	1979.8	1852.2	1781.8
42.5°	2032.6	1997.4	1839.0	1702.6	1623.4
45°	1887.4	1847.8	1689.4	1548.6	1487.1
47.5°	1742.2	1707.0	1561.8	1416.7	1346.3
50°	1588.2	1557.4	1425.5	1280.3	1205.5
52.5°	1460.7	1412.3	1284.7	1139.5	1077.9
55°	1311.1	1271.5	1152.7	1016.3	963.5
57.5°	1174.7	1135.1	1025.1	897.5	853.5
60°	1047.1	989.9	897.5	787.5	752.3
62.5°	906.3	862.3	783.1	690.7	734.7
65°	778.7	734.7	664.3	677.5	563.1
67.5°	637.9	615.9	554.3	492.8	475.2
70°	519.1	492.8	470.8	404.8	387.2
72.5°	413.6	387.2	356.4	321.2	308.0
75°	312.4	290.4	272.8	259.6	286.0
77.5°	215.6	206.8	193.6	180.4	176.0
80°	140.8	136.4	132.0	127.6	123.2
82.5°	83.6	83.6	83.6	83.6	83.6
85°	44.0	48.4	52.8	57.2	61.6
87.5°	26.4	26.4	30.8	35.2	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)