

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: P561496

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561496
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-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5718.0 lumens
Efficiency: N/A
Efficacy: 66.2 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

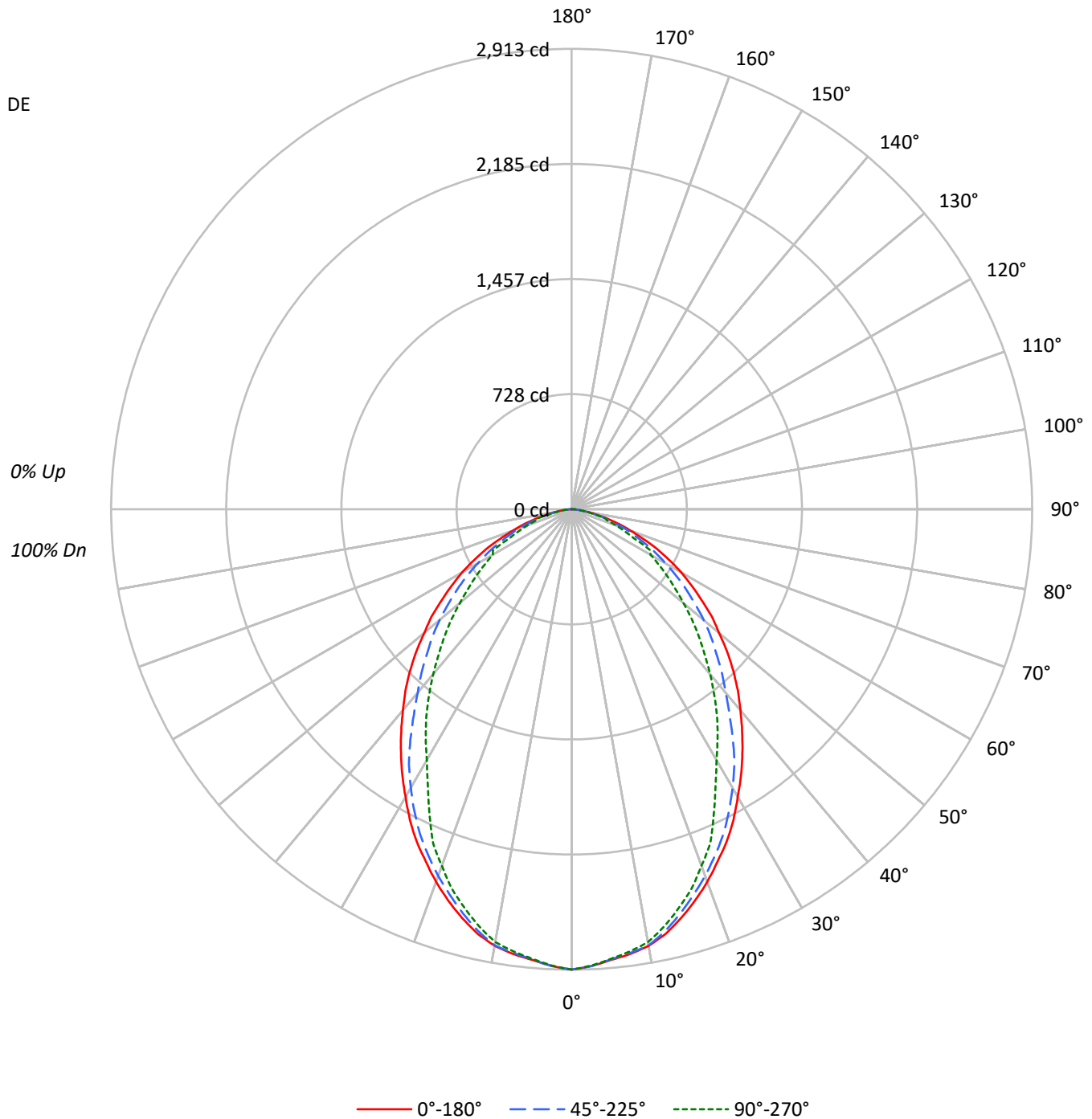
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7838	7838	7838
5°	7732	7722	7713
10°	7664	7655	7600
15°	7458	7383	7280
20°	7184	7068	6875
25°	6888	6739	6319
30°	6529	6320	5692
35°	6184	5841	5265
40°	5832	5323	4790
45°	5498	4921	4331
50°	5089	4567	3862
55°	4708	4139	3460
60°	4313	3697	3099
65°	3795	3238	2744
70°	3126	2835	2331
75°	2486	2171	2276
80°	1671	1565	1461
85°	1041	1247	1454

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5498 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.1	4.7
10°-20°	744.1	13.0
20°-30°	1030.1	18.0
30°-40°	1098.4	19.2
40°-50°	1002.1	17.5
50°-60°	785.1	13.7
60°-70°	511.7	8.9
70°-80°	226.7	4.0
80°-90°	48.7	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°	2045.4	35.8
0°-40°	3143.8	55.0
0°-60°	4931.0	86.2
0°-90°	5718.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5718.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2913	2913	2913	2913	2913	
5°	2862	2859	2859	2855	2855	272
15°	2677	2677	2650	2623	2613	753
25°	2320	2307	2270	2189	2128	1065
35°	1882	1869	1778	1643	1603	1177
45°	1445	1414	1293	1185	1138	1113
55°	1003	973	882	778	737	900
65°	596	562	508	519	431	587
75°	239	222	209	199	219	256
85°	34	37	40	44	47	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2912.7	2912.7	2912.7	2912.7	2912.7
2.5°	2892.5	2892.5	2892.5	2889.1	2889.1
5°	2862.2	2858.8	2858.8	2855.4	2855.4
7.5°	2838.6	2835.2	2831.9	2828.5	2821.8
10°	2804.9	2804.9	2801.6	2784.7	2781.3
12.5°	2751.0	2747.7	2734.2	2710.6	2703.9
15°	2677.0	2677.0	2650.0	2623.1	2613.0
17.5°	2596.2	2592.8	2559.1	2532.2	2518.7
20°	2508.6	2501.9	2468.2	2424.4	2400.9
22.5°	2411.0	2411.0	2370.5	2313.3	2289.7
25°	2320.0	2306.6	2269.5	2188.7	2128.1
27.5°	2215.7	2195.4	2155.0	2040.6	1969.8
30°	2101.2	2091.1	2033.8	1885.7	1831.8
32.5°	1993.4	1976.6	1916.0	1761.1	1717.3
35°	1882.3	1868.8	1777.9	1643.2	1602.8
37.5°	1771.2	1754.3	1639.9	1532.1	1481.6
40°	1660.1	1639.9	1515.3	1417.6	1363.7
42.5°	1555.7	1528.7	1407.5	1303.1	1242.5
45°	1444.6	1414.2	1293.0	1185.3	1138.1
47.5°	1333.4	1306.5	1195.4	1084.3	1030.4
50°	1215.6	1192.0	1091.0	979.9	922.6
52.5°	1117.9	1080.9	983.2	872.1	825.0
55°	1003.4	973.1	882.2	777.8	737.4
57.5°	899.1	868.8	784.6	686.9	653.2
60°	801.4	757.6	686.9	602.7	575.8
62.5°	693.7	660.0	599.4	528.7	562.3
65°	596.0	562.3	508.5	518.6	431.0
67.5°	488.3	471.4	424.3	377.1	363.7
70°	397.3	377.1	360.3	309.8	296.3
72.5°	316.5	296.3	272.7	245.8	235.7
75°	239.1	222.2	208.8	198.7	218.9
77.5°	165.0	158.3	148.2	138.1	134.7
80°	107.8	104.4	101.0	97.7	94.3
82.5°	64.0	64.0	64.0	64.0	64.0
85°	33.7	37.0	40.4	43.8	47.1
87.5°	20.2	20.2	23.6	26.9	30.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)