

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: P561480

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561480
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-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 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: 5840.0 lumens
Efficiency: N/A
Efficacy: 67.6 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

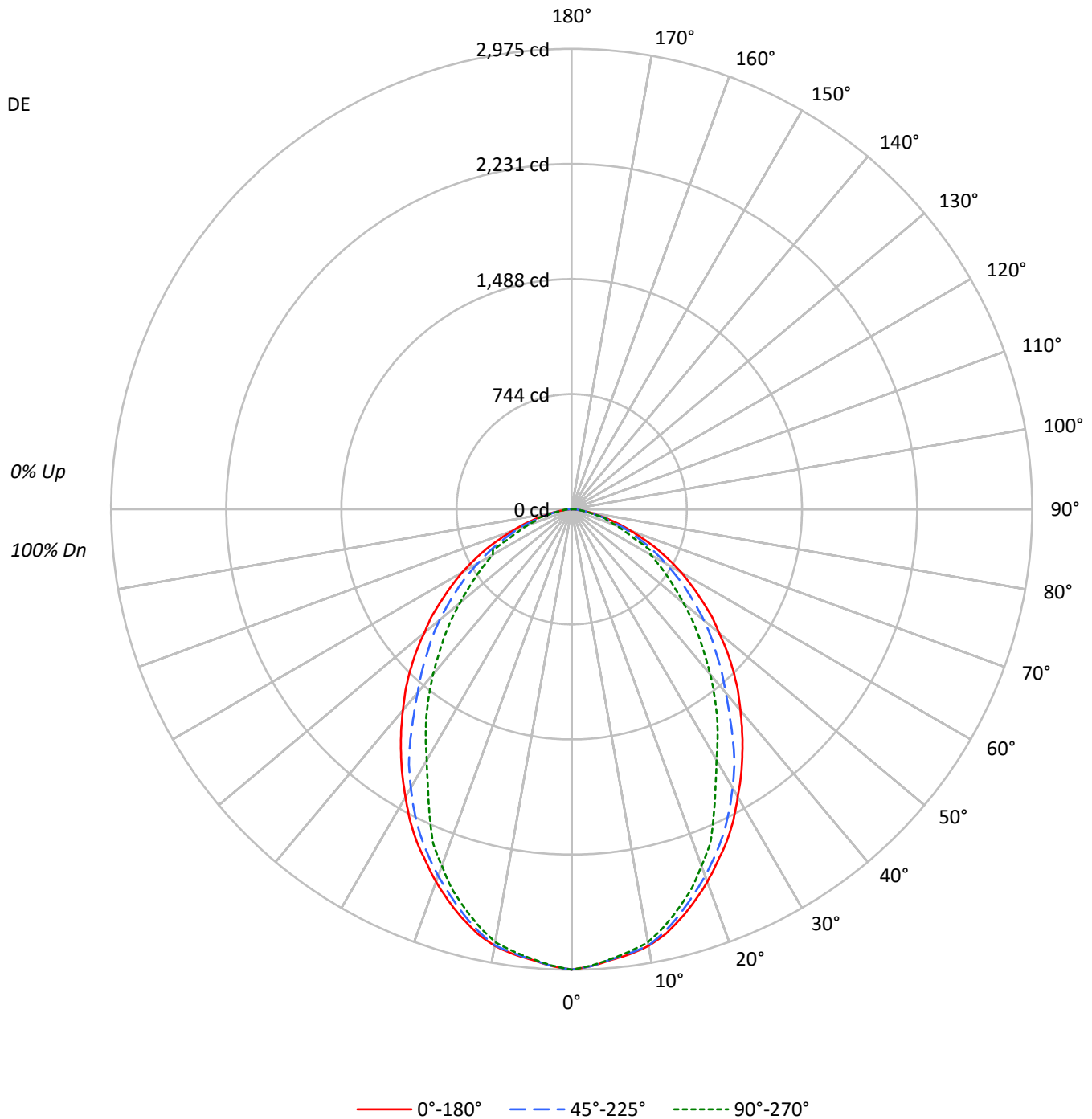
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8005	8005	8005
5°	7896	7887	7878
10°	7828	7818	7762
15°	7617	7540	7435
20°	7337	7219	7022
25°	7035	6883	6453
30°	6668	6454	5813
35°	6316	5965	5378
40°	5956	5436	4893
45°	5615	5026	4424
50°	5197	4665	3945
55°	4808	4227	3534
60°	4405	3776	3165
65°	3876	3307	2803
70°	3193	2895	2381
75°	2539	2217	2324
80°	1706	1599	1492
85°	1062	1275	1485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5615 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	276.9	4.7
10°-20°	760.0	13.0
20°-30°	1052.1	18.0
30°-40°	1121.9	19.2
40°-50°	1023.5	17.5
50°-60°	801.8	13.7
60°-70°	522.6	8.9
70°-80°	231.5	4.0
80°-90°	49.7	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°	2089.0	35.8
0°-40°	3210.9	55.0
0°-60°	5036.2	86.2
0°-90°	5840.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5840.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2975	2975	2975	2975	2975	
5°	2923	2920	2920	2916	2916	277
15°	2734	2734	2707	2679	2669	769
25°	2370	2356	2318	2235	2174	1088
35°	1922	1909	1816	1678	1637	1202
45°	1475	1444	1321	1211	1162	1136
55°	1025	994	901	794	753	919
65°	609	574	519	530	440	600
75°	244	227	213	203	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2974.8	2974.8	2974.8	2974.8	2974.8
2.5°	2954.2	2954.2	2954.2	2950.7	2950.7
5°	2923.2	2919.8	2919.8	2916.4	2916.4
7.5°	2899.2	2895.7	2892.3	2888.8	2882.0
10°	2864.8	2864.8	2861.3	2844.1	2840.7
12.5°	2809.7	2806.3	2792.5	2768.5	2761.6
15°	2734.1	2734.1	2706.6	2679.1	2668.7
17.5°	2651.5	2648.1	2613.7	2586.2	2572.4
20°	2562.1	2555.2	2520.9	2476.1	2452.1
22.5°	2462.4	2462.4	2421.1	2362.7	2338.6
25°	2369.5	2355.8	2318.0	2235.4	2173.5
27.5°	2262.9	2242.3	2201.0	2084.1	2011.9
30°	2146.0	2135.7	2077.2	1925.9	1870.9
32.5°	2035.9	2018.7	1956.8	1798.6	1753.9
35°	1922.5	1908.7	1815.8	1678.3	1637.0
37.5°	1809.0	1791.8	1674.8	1564.8	1513.2
40°	1695.5	1674.8	1547.6	1447.9	1392.8
42.5°	1588.9	1561.3	1437.5	1330.9	1269.0
45°	1475.4	1444.4	1320.6	1210.6	1162.4
47.5°	1361.9	1334.4	1220.9	1107.4	1052.4
50°	1241.5	1217.4	1114.3	1000.8	942.3
52.5°	1141.8	1103.9	1004.2	890.7	842.6
55°	1024.9	993.9	901.0	794.4	753.2
57.5°	918.2	887.3	801.3	701.6	667.2
60°	818.5	773.8	701.6	615.6	588.1
62.5°	708.5	674.1	612.2	539.9	574.3
65°	608.7	574.3	519.3	529.6	440.2
67.5°	498.7	481.5	433.3	385.2	371.4
70°	405.8	385.2	368.0	316.4	302.6
72.5°	323.3	302.6	278.6	251.1	240.7
75°	244.2	227.0	213.2	202.9	223.5
77.5°	168.5	161.6	151.3	141.0	137.6
80°	110.1	106.6	103.2	99.7	96.3
82.5°	65.3	65.3	65.3	65.3	65.3
85°	34.4	37.8	41.3	44.7	48.1
87.5°	20.6	20.6	24.1	27.5	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)