

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: P561478

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561478
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-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6486.0 lumens
Efficiency: N/A
Efficacy: 75.1 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

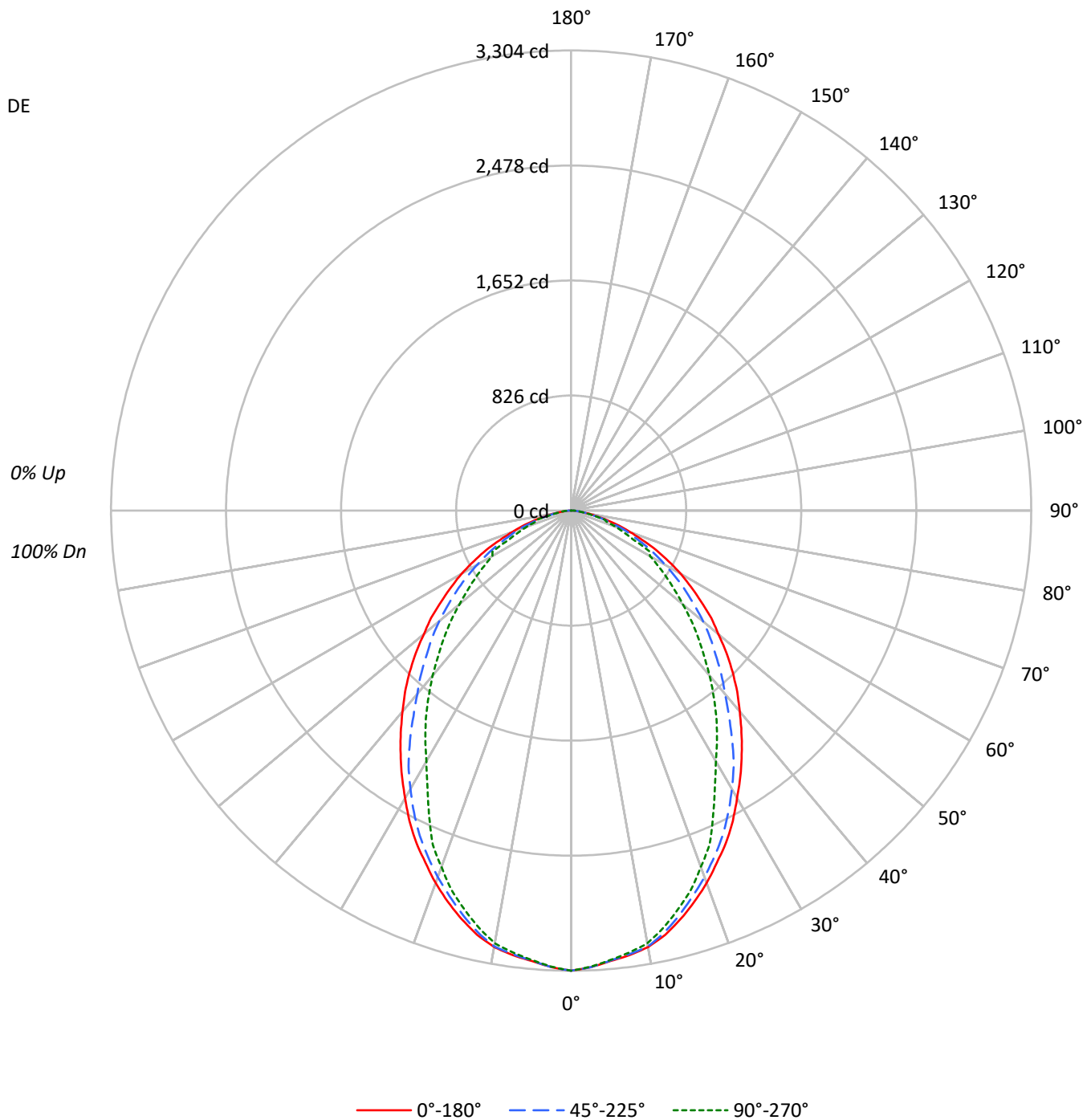
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8891	8891	8891
5°	8770	8760	8749
10°	8694	8683	8621
15°	8459	8374	8257
20°	8149	8017	7799
25°	7814	7644	7167
30°	7406	7168	6456
35°	7014	6625	5973
40°	6615	6038	5434
45°	6236	5582	4913
50°	5772	5181	4381
55°	5340	4695	3925
60°	4892	4194	3515
65°	4305	3672	3113
70°	3546	3216	2644
75°	2820	2462	2582
80°	1894	1776	1657
85°	1179	1414	1652

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6236 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	307.5	4.7
10°-20°	844.0	13.0
20°-30°	1168.5	18.0
30°-40°	1246.0	19.2
40°-50°	1136.7	17.5
50°-60°	890.5	13.7
60°-70°	580.4	8.9
70°-80°	257.1	4.0
80°-90°	55.2	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°	2320.1	35.8
0°-40°	3566.1	55.0
0°-60°	5593.3	86.2
0°-90°	6486.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6486.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3304	3304	3304	3304	3304	
5°	3247	3243	3243	3239	3239	308
15°	3036	3036	3006	2975	2964	854
25°	2632	2616	2574	2483	2414	1208
35°	2135	2120	2017	1864	1818	1335
45°	1639	1604	1467	1344	1291	1262
55°	1138	1104	1001	882	836	1021
65°	676	638	577	588	489	666
75°	271	252	237	225	248	291
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3303.9	3303.9	3303.9	3303.9	3303.9
2.5°	3281.0	3281.0	3281.0	3277.1	3277.1
5°	3246.6	3242.8	3242.8	3238.9	3238.9
7.5°	3219.9	3216.0	3212.2	3208.4	3200.8
10°	3181.7	3181.7	3177.8	3158.7	3154.9
12.5°	3120.5	3116.7	3101.4	3074.7	3067.1
15°	3036.5	3036.5	3006.0	2975.4	2963.9
17.5°	2944.8	2941.0	2902.8	2872.3	2857.0
20°	2845.5	2837.9	2799.7	2750.1	2723.3
22.5°	2734.8	2734.8	2688.9	2624.0	2597.3
25°	2631.6	2616.4	2574.4	2482.7	2413.9
27.5°	2513.2	2490.3	2444.5	2314.6	2234.4
30°	2383.4	2371.9	2307.0	2138.9	2077.8
32.5°	2261.2	2242.1	2173.3	1997.6	1948.0
35°	2135.1	2119.8	2016.7	1863.9	1818.1
37.5°	2009.1	1990.0	1860.1	1737.9	1680.6
40°	1883.0	1860.1	1718.8	1608.0	1546.9
42.5°	1764.6	1734.1	1596.6	1478.2	1409.4
45°	1638.6	1604.2	1466.7	1344.5	1291.0
47.5°	1512.5	1482.0	1355.9	1229.9	1168.8
50°	1378.8	1352.1	1237.5	1111.5	1046.5
52.5°	1268.1	1226.1	1115.3	989.3	935.8
55°	1138.2	1103.8	1000.7	882.3	836.5
57.5°	1019.8	985.4	889.9	779.2	741.0
60°	909.0	859.4	779.2	683.7	653.1
62.5°	786.8	748.6	679.9	599.7	637.9
65°	676.1	637.9	576.7	588.2	488.9
67.5°	553.8	534.7	481.3	427.8	412.5
70°	450.7	427.8	408.7	351.4	336.1
72.5°	359.0	336.1	309.4	278.8	267.4
75°	271.2	252.1	236.8	225.4	248.3
77.5°	187.2	179.5	168.1	156.6	152.8
80°	122.2	118.4	114.6	110.8	106.9
82.5°	72.6	72.6	72.6	72.6	72.6
85°	38.2	42.0	45.8	49.7	53.5
87.5°	22.9	22.9	26.7	30.6	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)