

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: P563334

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563334
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-24-4-LD4-3LO-40-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6608.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

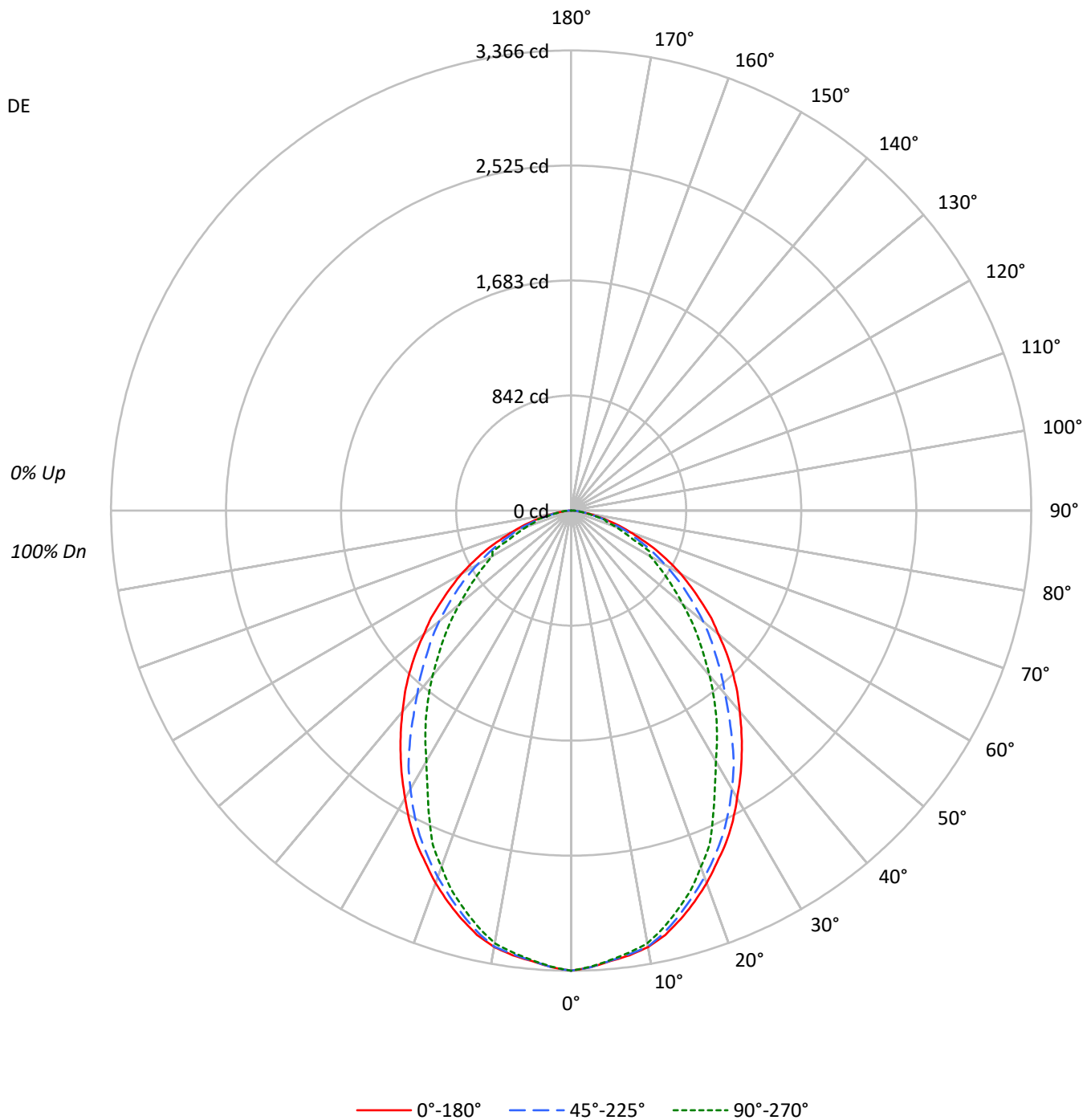
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4529	4529	4529
5°	4467	4462	4457
10°	4429	4423	4392
15°	4309	4266	4206
20°	4151	4084	3973
25°	3980	3894	3651
30°	3773	3652	3289
35°	3573	3375	3042
40°	3370	3076	2768
45°	3177	2843	2503
50°	2941	2639	2232
55°	2720	2392	1999
60°	2492	2136	1791
65°	2193	1871	1586
70°	1806	1638	1347
75°	1436	1254	1315
80°	965	904	845
85°	601	721	841

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3177 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.3	4.7
10°-20°	859.9	13.0
20°-30°	1190.5	18.0
30°-40°	1269.4	19.2
40°-50°	1158.1	17.5
50°-60°	907.3	13.7
60°-70°	591.3	8.9
70°-80°	262.0	4.0
80°-90°	56.2	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°	2363.7	35.8
0°-40°	3633.2	55.0
0°-60°	5698.5	86.2
0°-90°	6608.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6608.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3366	3366	3366	3366	3366	
5°	3308	3304	3304	3300	3300	314
15°	3094	3094	3062	3031	3020	870
25°	2681	2666	2623	2529	2459	1231
35°	2175	2160	2055	1899	1852	1360
45°	1669	1634	1494	1370	1315	1286
55°	1160	1125	1020	899	852	1040
65°	689	650	588	599	498	679
75°	276	257	241	230	253	296
85°	39	43	47	51	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3366.0	3366.0	3366.0	3366.0	3366.0
2.5°	3342.7	3342.7	3342.7	3338.8	3338.8
5°	3307.7	3303.8	3303.8	3299.9	3299.9
7.5°	3280.4	3276.5	3272.6	3268.7	3261.0
10°	3241.5	3241.5	3237.6	3218.2	3214.3
12.5°	3179.2	3175.4	3159.8	3132.5	3124.8
15°	3093.6	3093.6	3062.5	3031.4	3019.7
17.5°	3000.2	2996.3	2957.4	2926.3	2910.7
20°	2899.1	2891.3	2852.4	2801.8	2774.5
22.5°	2786.2	2786.2	2739.5	2673.4	2646.1
25°	2681.1	2665.6	2622.8	2529.4	2459.3
27.5°	2560.5	2537.2	2490.5	2358.2	2276.4
30°	2428.2	2416.5	2350.4	2179.2	2116.9
32.5°	2303.7	2284.2	2214.2	2035.2	1984.6
35°	2175.3	2159.7	2054.6	1899.0	1852.3
37.5°	2046.9	2027.4	1895.1	1770.6	1712.2
40°	1918.4	1895.1	1751.1	1638.3	1576.0
42.5°	1797.8	1766.7	1626.6	1506.0	1435.9
45°	1669.4	1634.4	1494.3	1369.8	1315.3
47.5°	1541.0	1509.8	1381.4	1253.0	1190.8
50°	1404.8	1377.5	1260.8	1132.4	1066.2
52.5°	1291.9	1249.1	1136.3	1007.9	953.4
55°	1159.6	1124.6	1019.5	898.9	852.2
57.5°	1039.0	1004.0	906.7	793.8	754.9
60°	926.1	875.6	793.8	696.6	665.4
62.5°	801.6	762.7	692.7	610.9	649.9
65°	688.8	649.9	587.6	599.3	498.1
67.5°	564.2	544.8	490.3	435.8	420.3
70°	459.2	435.8	416.4	358.0	342.4
72.5°	365.8	342.4	315.2	284.1	272.4
75°	276.3	256.8	241.3	229.6	252.9
77.5°	190.7	182.9	171.2	159.5	155.7
80°	124.5	120.6	116.7	112.8	109.0
82.5°	73.9	73.9	73.9	73.9	73.9
85°	38.9	42.8	46.7	50.6	54.5
87.5°	23.3	23.3	27.2	31.1	35.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)