

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: P563342

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563342
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-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6736.0 lumens
Efficiency: N/A
Efficacy: 96.0 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

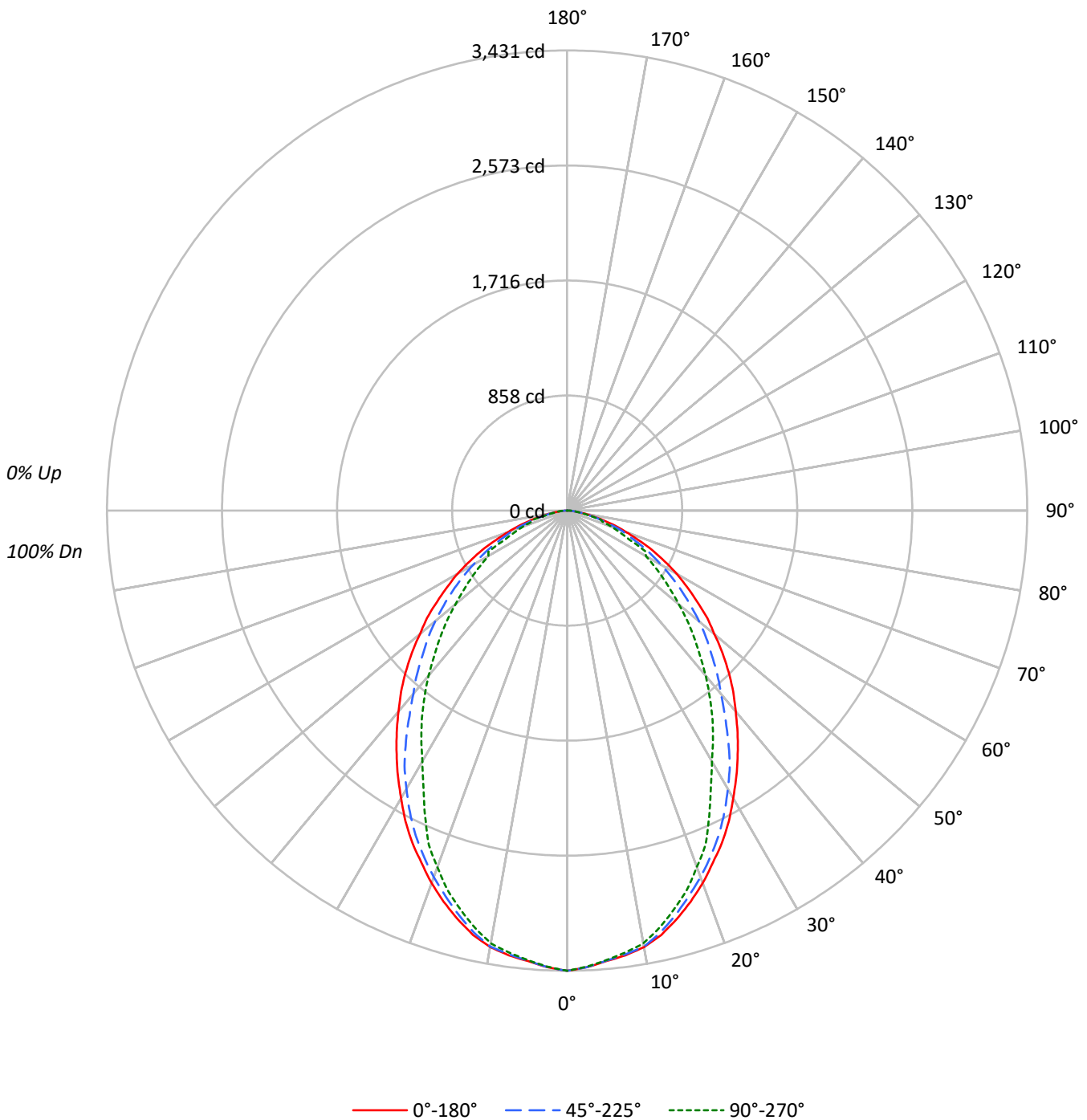
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4617	4617	4617
5°	4554	4549	4543
10°	4514	4509	4477
15°	4393	4349	4288
20°	4231	4163	4050
25°	4058	3969	3722
30°	3846	3722	3353
35°	3642	3440	3101
40°	3435	3135	2822
45°	3238	2898	2551
50°	2997	2690	2275
55°	2773	2438	2038
60°	2541	2178	1825
65°	2235	1907	1616
70°	1841	1670	1373
75°	1464	1278	1340
80°	983	922	861
85°	613	735	857

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3238 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	319.4	4.7
10°-20°	876.6	13.0
20°-30°	1213.5	18.0
30°-40°	1294.0	19.2
40°-50°	1180.5	17.5
50°-60°	924.8	13.7
60°-70°	602.8	8.9
70°-80°	267.0	4.0
80°-90°	57.3	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°	2409.5	35.8
0°-40°	3703.5	55.0
0°-60°	5808.8	86.2
0°-90°	6736.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3431	3431	3431	3431	3431	
5°	3372	3368	3368	3364	3364	320
15°	3154	3154	3122	3090	3078	887
25°	2733	2717	2674	2578	2507	1255
35°	2217	2202	2094	1936	1888	1386
45°	1702	1666	1523	1396	1341	1311
55°	1182	1146	1039	916	869	1060
65°	702	662	599	611	508	692
75°	282	262	246	234	258	302
85°	40	44	48	52	56	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3431.2	3431.2	3431.2	3431.2	3431.2
2.5°	3407.4	3407.4	3407.4	3403.5	3403.5
5°	3371.7	3367.8	3367.8	3363.8	3363.8
7.5°	3344.0	3340.0	3336.0	3332.1	3324.1
10°	3304.3	3304.3	3300.3	3280.5	3276.5
12.5°	3240.8	3236.9	3221.0	3193.2	3185.3
15°	3153.6	3153.6	3121.8	3090.1	3078.2
17.5°	3058.4	3054.4	3014.7	2983.0	2967.1
20°	2955.2	2947.3	2907.6	2856.1	2828.3
22.5°	2840.2	2840.2	2792.6	2725.1	2697.4
25°	2733.1	2717.2	2673.6	2578.4	2507.0
27.5°	2610.1	2586.3	2538.7	2403.8	2320.5
30°	2475.2	2463.3	2395.9	2221.4	2157.9
32.5°	2348.3	2328.5	2257.1	2074.6	2023.0
35°	2217.4	2201.5	2094.4	1935.8	1888.2
37.5°	2086.5	2066.7	1931.8	1804.9	1745.4
40°	1955.6	1931.8	1785.0	1670.0	1606.5
42.5°	1832.6	1800.9	1658.1	1535.1	1463.7
45°	1701.7	1666.0	1523.2	1396.3	1340.8
47.5°	1570.8	1539.1	1408.2	1277.3	1213.8
50°	1432.0	1404.2	1285.2	1154.3	1086.9
52.5°	1317.0	1273.3	1158.3	1027.4	971.9
55°	1182.1	1146.4	1039.3	916.3	868.7
57.5°	1059.1	1023.4	924.2	809.2	769.5
60°	944.1	892.5	809.2	710.0	678.3
62.5°	817.1	777.5	706.1	622.8	662.4
65°	702.1	662.4	599.0	610.9	507.7
67.5°	575.2	555.3	499.8	444.3	428.4
70°	468.1	444.3	424.4	364.9	349.1
72.5°	372.9	349.1	321.3	289.6	277.7
75°	281.6	261.8	245.9	234.0	257.8
77.5°	194.4	186.4	174.5	162.6	158.7
80°	126.9	123.0	119.0	115.0	111.1
82.5°	75.4	75.4	75.4	75.4	75.4
85°	39.7	43.6	47.6	51.6	55.5
87.5°	23.8	23.8	27.8	31.7	35.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)