

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: P563403

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563403
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-50-UNV-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8550.0 lumens
Efficiency: N/A
Efficacy: 121.8 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

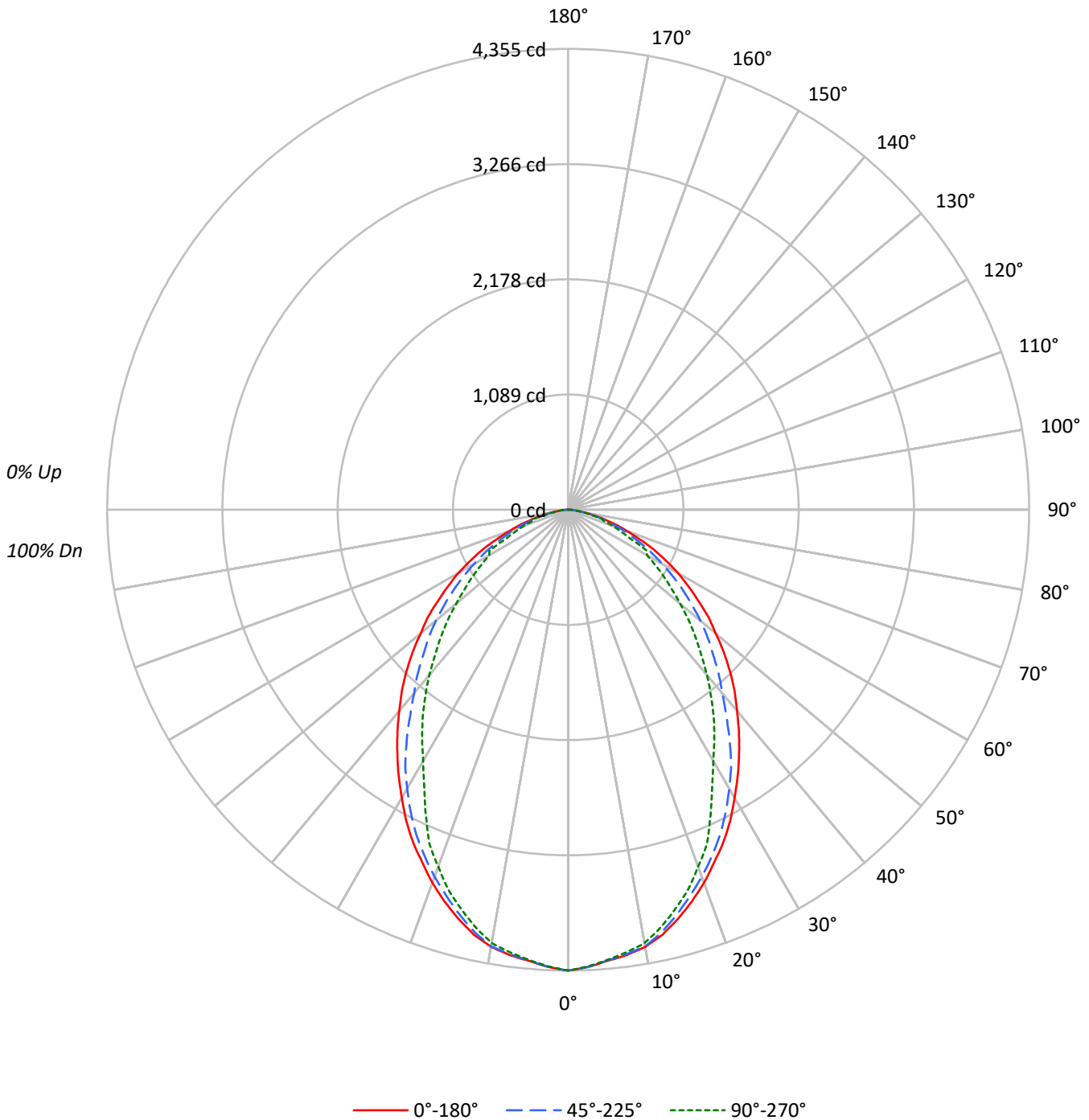
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5860	5860	5860
5°	5780	5774	5767
10°	5730	5723	5682
15°	5576	5520	5442
20°	5371	5284	5140
25°	5150	5038	4724
30°	4881	4725	4255
35°	4623	4367	3937
40°	4360	3980	3582
45°	4110	3679	3238
50°	3805	3415	2888
55°	3520	3095	2587
60°	3225	2764	2317
65°	2837	2421	2052
70°	2337	2119	1743
75°	1858	1623	1701
80°	1248	1170	1093
85°	777	932	1088

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4110 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	405.4	4.7
10°-20°	1112.6	13.0
20°-30°	1540.4	18.0
30°-40°	1642.5	19.2
40°-50°	1498.4	17.5
50°-60°	1173.9	13.7
60°-70°	765.1	8.9
70°-80°	339.0	4.0
80°-90°	72.8	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°	3058.4	35.8
0°-40°	4700.9	55.0
0°-60°	7373.2	86.2
0°-90°	8550.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8550.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4355	4355	4355	4355	4355	
5°	4280	4275	4275	4270	4270	406
15°	4003	4003	3962	3922	3907	1125
25°	3469	3449	3394	3273	3182	1593
35°	2815	2794	2658	2457	2397	1760
45°	2160	2115	1933	1772	1702	1664
55°	1500	1455	1319	1163	1103	1346
65°	891	841	760	775	644	878
75°	358	332	312	297	327	383
85°	50	55	60	66	70	70
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4355.3	4355.3	4355.3	4355.3	4355.3
2.5°	4325.0	4325.0	4325.0	4320.0	4320.0
5°	4279.7	4274.7	4274.7	4269.7	4269.7
7.5°	4244.5	4239.5	4234.4	4229.4	4219.3
10°	4194.1	4194.1	4189.1	4163.9	4158.9
12.5°	4113.6	4108.5	4088.4	4053.2	4043.1
15°	4002.8	4002.8	3962.5	3922.2	3907.1
17.5°	3882.0	3876.9	3826.6	3786.3	3766.2
20°	3751.1	3741.0	3690.6	3625.2	3589.9
22.5°	3605.0	3605.0	3544.6	3459.0	3423.8
25°	3469.1	3449.0	3393.6	3272.7	3182.1
27.5°	3313.0	3282.8	3222.4	3051.2	2945.5
30°	3141.8	3126.7	3041.1	2819.6	2739.0
32.5°	2980.7	2955.5	2864.9	2633.3	2567.8
35°	2814.6	2794.4	2658.5	2457.1	2396.6
37.5°	2648.4	2623.2	2452.0	2290.9	2215.4
40°	2482.2	2452.0	2265.7	2119.7	2039.2
42.5°	2326.2	2285.9	2104.6	1948.5	1857.9
45°	2160.0	2114.7	1933.4	1772.3	1701.8
47.5°	1993.9	1953.6	1787.4	1621.3	1540.7
50°	1817.6	1782.4	1631.3	1465.2	1379.6
52.5°	1671.6	1616.2	1470.2	1304.1	1233.6
55°	1500.4	1455.1	1319.2	1163.1	1102.7
57.5°	1344.3	1299.0	1173.1	1027.1	976.8
60°	1198.3	1132.9	1027.1	901.3	861.0
62.5°	1037.2	986.9	896.2	790.5	840.8
65°	891.2	840.8	760.3	775.4	644.5
67.5°	730.1	704.9	634.4	563.9	543.8
70°	594.1	563.9	538.7	463.2	443.1
72.5°	473.3	443.1	407.8	367.6	352.4
75°	357.5	332.3	312.2	297.1	327.3
77.5°	246.7	236.6	221.5	206.4	201.4
80°	161.1	156.1	151.0	146.0	141.0
82.5°	95.7	95.7	95.7	95.7	95.7
85°	50.3	55.4	60.4	65.5	70.5
87.5°	30.2	30.2	35.2	40.3	45.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)