

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: P563240

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563240
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-LD4-3HI-50-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10857.0 lumens
Efficiency: N/A
Efficacy: 83.8 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

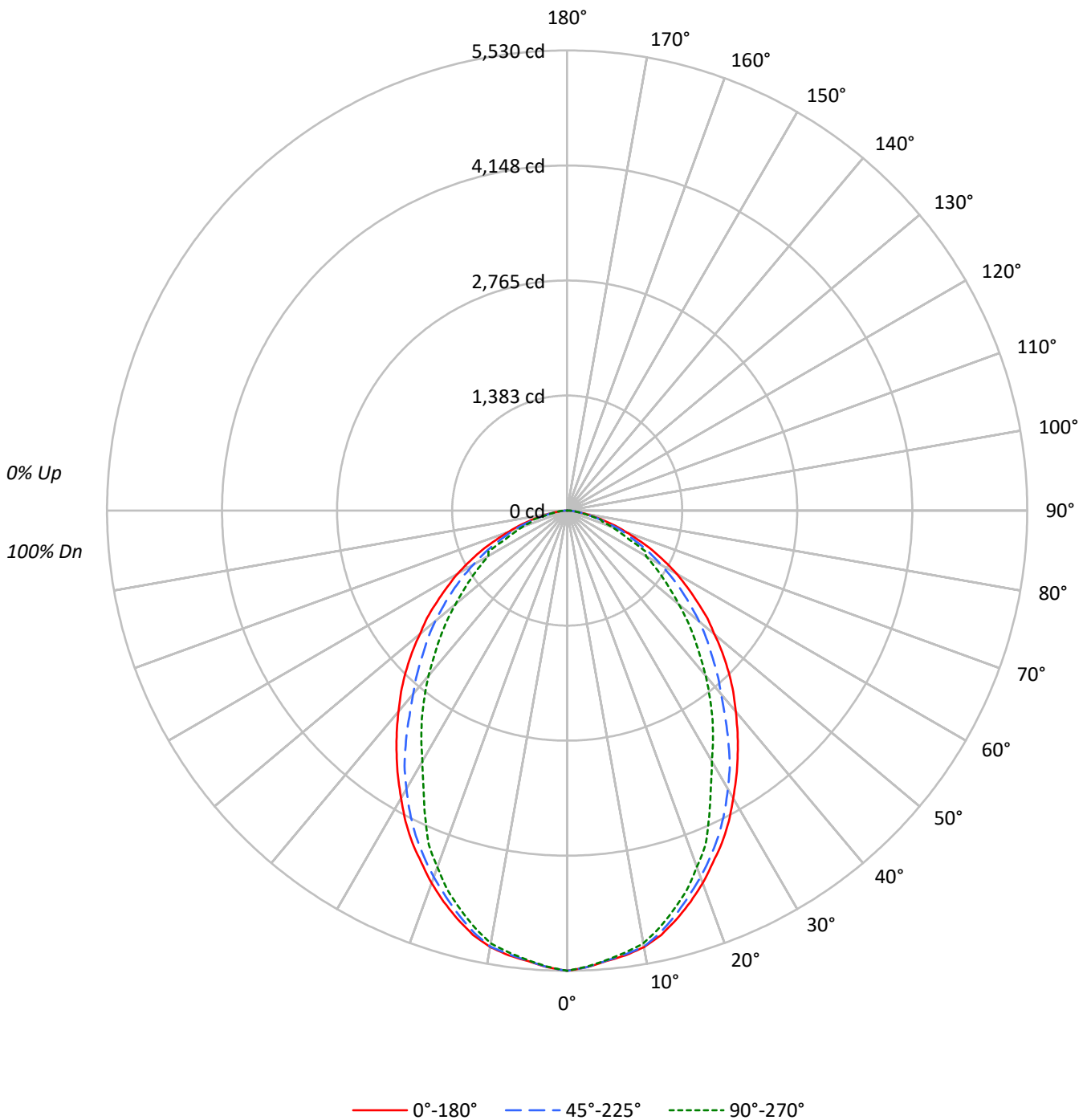
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7441	7441	7441
5°	7340	7331	7323
10°	7276	7268	7215
15°	7080	7009	6911
20°	6820	6710	6527
25°	6540	6397	5999
30°	6198	6000	5404
35°	5870	5545	4999
40°	5536	5053	4548
45°	5219	4672	4112
50°	4831	4336	3667
55°	4469	3929	3285
60°	4095	3510	2942
65°	3603	3074	2606
70°	2968	2691	2213
75°	2360	2061	2161
80°	1585	1486	1387
85°	986	1184	1382

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5219 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	514.8	4.7
10°-20°	1412.8	13.0
20°-30°	1956.0	18.0
30°-40°	2085.7	19.2
40°-50°	1902.7	17.5
50°-60°	1490.6	13.7
60°-70°	971.5	8.9
70°-80°	430.4	4.0
80°-90°	92.4	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°	3883.6	35.8
0°-40°	5969.3	55.0
0°-60°	9362.6	86.2
0°-90°	10857.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10857.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5530	5530	5530	5530	5530	
5°	5434	5428	5428	5422	5422	516
15°	5083	5083	5032	4981	4961	1429
25°	4405	4380	4309	4156	4041	2022
35°	3574	3548	3376	3120	3043	2234
45°	2743	2685	2455	2250	2161	2113
55°	1905	1848	1675	1477	1400	1709
65°	1132	1068	965	985	818	1115
75°	454	422	396	377	416	487
85°	64	70	77	83	90	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5530.4	5530.4	5530.4	5530.4	5530.4
2.5°	5492.0	5492.0	5492.0	5485.7	5485.7
5°	5434.5	5428.1	5428.1	5421.7	5421.7
7.5°	5389.8	5383.4	5377.0	5370.6	5357.8
10°	5325.8	5325.8	5319.4	5287.5	5281.1
12.5°	5223.5	5217.1	5191.6	5146.8	5134.0
15°	5082.9	5082.9	5031.7	4980.6	4961.4
17.5°	4929.4	4923.0	4859.1	4807.9	4782.4
20°	4763.2	4750.4	4686.5	4603.3	4558.6
22.5°	4577.8	4577.8	4501.1	4392.4	4347.6
25°	4405.1	4379.6	4309.2	4155.8	4040.7
27.5°	4206.9	4168.6	4091.9	3874.5	3740.2
30°	3989.6	3970.4	3861.7	3580.4	3478.1
32.5°	3785.0	3753.0	3637.9	3343.8	3260.7
35°	3574.0	3548.4	3375.8	3120.0	3043.3
37.5°	3363.0	3331.0	3113.7	2909.1	2813.2
40°	3152.0	3113.7	2877.1	2691.7	2589.4
42.5°	2953.8	2902.7	2672.5	2474.3	2359.2
45°	2742.8	2685.3	2455.1	2250.5	2161.0
47.5°	2531.8	2480.7	2269.7	2058.7	1956.4
50°	2308.1	2263.3	2071.5	1860.5	1751.8
52.5°	2122.7	2052.3	1866.9	1655.9	1566.4
55°	1905.3	1847.7	1675.1	1476.9	1400.2
57.5°	1707.1	1649.5	1489.7	1304.3	1240.3
60°	1521.7	1438.5	1304.3	1144.4	1093.3
62.5°	1317.1	1253.1	1138.0	1003.8	1067.7
65°	1131.7	1067.7	965.4	984.6	818.4
67.5°	927.1	895.1	805.6	716.1	690.5
70°	754.4	716.1	684.1	588.2	562.6
72.5°	601.0	562.6	517.9	466.7	447.5
75°	453.9	422.0	396.4	377.2	415.6
77.5°	313.3	300.5	281.3	262.1	255.7
80°	204.6	198.2	191.8	185.4	179.0
82.5°	121.5	121.5	121.5	121.5	121.5
85°	63.9	70.3	76.7	83.1	89.5
87.5°	38.4	38.4	44.8	51.1	57.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)