

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: P563180

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563180
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-40-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12103.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

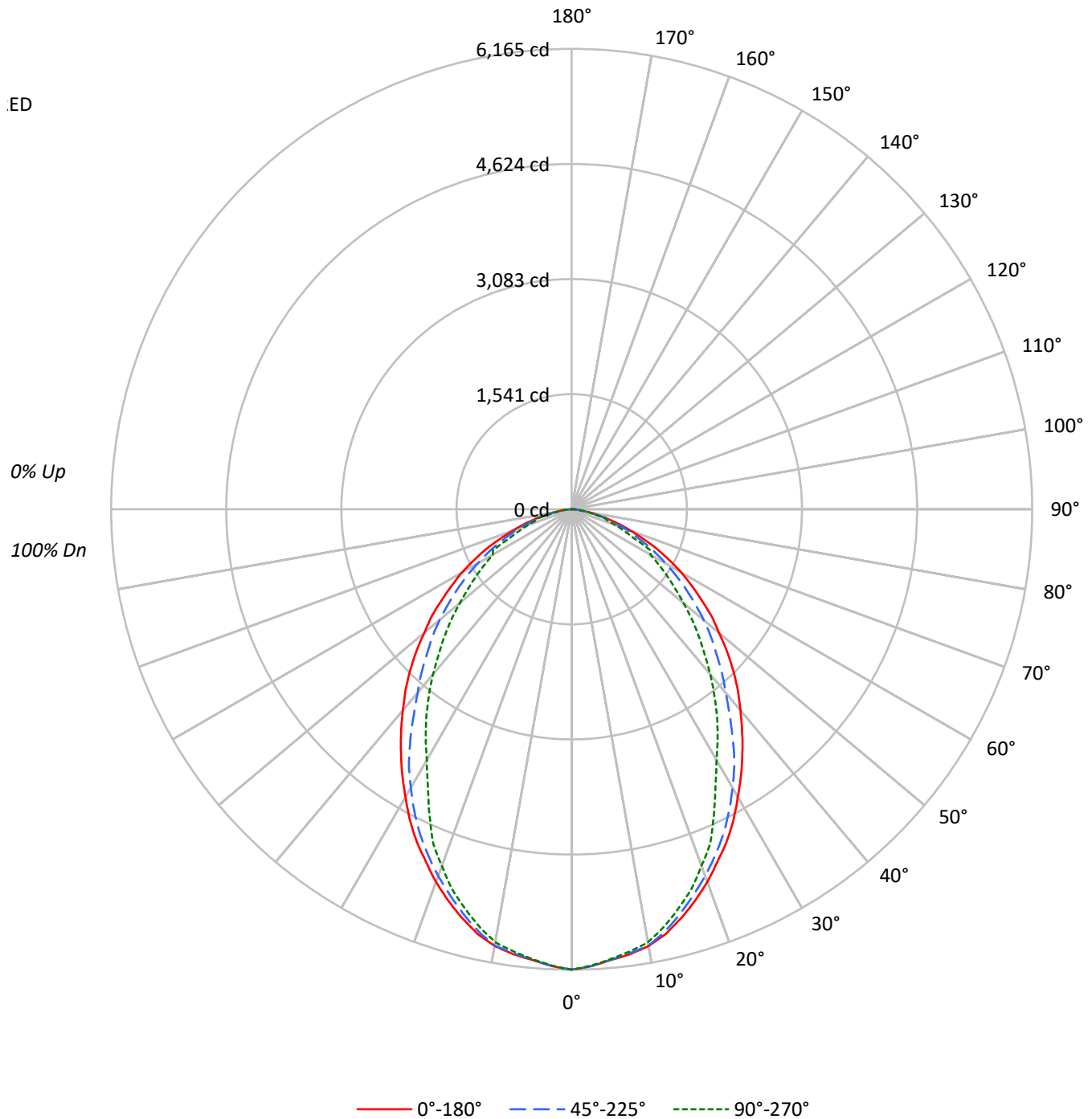
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8295	8295	8295
5°	8182	8173	8163
10°	8111	8102	8043
15°	7893	7813	7704
20°	7603	7480	7276
25°	7290	7132	6687
30°	6910	6688	6024
35°	6544	6181	5572
40°	6172	5633	5070
45°	5818	5208	4584
50°	5386	4834	4088
55°	4982	4381	3662
60°	4565	3913	3280
65°	4016	3426	2904
70°	3308	3000	2467
75°	2630	2297	2408
80°	1767	1657	1547
85°	1101	1320	1541

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5818 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	573.9	4.7
10°-20°	1575.0	13.0
20°-30°	2180.5	18.0
30°-40°	2325.0	19.2
40°-50°	2121.1	17.5
50°-60°	1661.7	13.7
60°-70°	1083.0	8.9
70°-80°	479.8	4.0
80°-90°	103.0	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°	4329.3	35.8
0°-40°	6654.3	55.0
0°-60°	10437.2	86.2
0°-90°	12103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12103.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6165	6165	6165	6165	6165	
5°	6058	6051	6051	6044	6044	575
15°	5666	5666	5609	5552	5531	1593
25°	4911	4882	4804	4633	4504	2254
35°	3984	3956	3763	3478	3393	2491
45°	3058	2994	2737	2509	2409	2355
55°	2124	2060	1867	1646	1561	1905
65°	1262	1190	1076	1098	912	1243
75°	506	470	442	420	463	542
85°	71	78	86	93	100	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6165.1	6165.1	6165.1	6165.1	6165.1
2.5°	6122.3	6122.3	6122.3	6115.2	6115.2
5°	6058.2	6051.1	6051.1	6043.9	6043.9
7.5°	6008.3	6001.2	5994.1	5986.9	5972.7
10°	5937.0	5937.0	5929.9	5894.3	5887.1
12.5°	5823.0	5815.9	5787.4	5737.5	5723.2
15°	5666.2	5666.2	5609.2	5552.2	5530.8
17.5°	5495.1	5488.0	5416.7	5359.7	5331.2
20°	5309.8	5295.6	5224.3	5131.6	5081.8
22.5°	5103.1	5103.1	5017.6	4896.4	4846.6
25°	4910.7	4882.2	4803.8	4632.7	4504.4
27.5°	4689.8	4647.0	4561.5	4319.1	4169.5
30°	4447.4	4426.0	4304.9	3991.3	3877.2
32.5°	4219.4	4183.7	4055.4	3727.6	3634.9
35°	3984.2	3955.6	3763.2	3478.1	3392.6
37.5°	3749.0	3713.3	3471.0	3242.9	3136.0
40°	3513.8	3471.0	3207.3	3000.6	2886.6
42.5°	3292.8	3235.8	2979.2	2758.3	2630.0
45°	3057.6	2993.5	2736.9	2508.8	2409.0
47.5°	2822.4	2765.4	2530.2	2295.0	2181.0
50°	2573.0	2523.1	2309.2	2074.0	1952.9
52.5°	2366.3	2287.9	2081.2	1846.0	1746.2
55°	2123.9	2059.8	1867.4	1646.4	1560.9
57.5°	1903.0	1838.8	1660.7	1454.0	1382.7
60°	1696.3	1603.6	1454.0	1275.8	1218.8
62.5°	1468.2	1396.9	1268.7	1119.0	1190.3
65°	1261.5	1190.3	1076.2	1097.6	912.3
67.5°	1033.5	997.8	898.0	798.3	769.7
70°	841.0	798.3	762.6	655.7	627.2
72.5°	670.0	627.2	577.3	520.3	498.9
75°	506.0	470.4	441.9	420.5	463.3
77.5°	349.2	335.0	313.6	292.2	285.1
80°	228.1	220.9	213.8	206.7	199.6
82.5°	135.4	135.4	135.4	135.4	135.4
85°	71.3	78.4	85.5	92.7	99.8
87.5°	42.8	42.8	49.9	57.0	64.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)