

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: P563371

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563371
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-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8868.0 lumens
Efficiency: N/A
Efficacy: 126.3 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

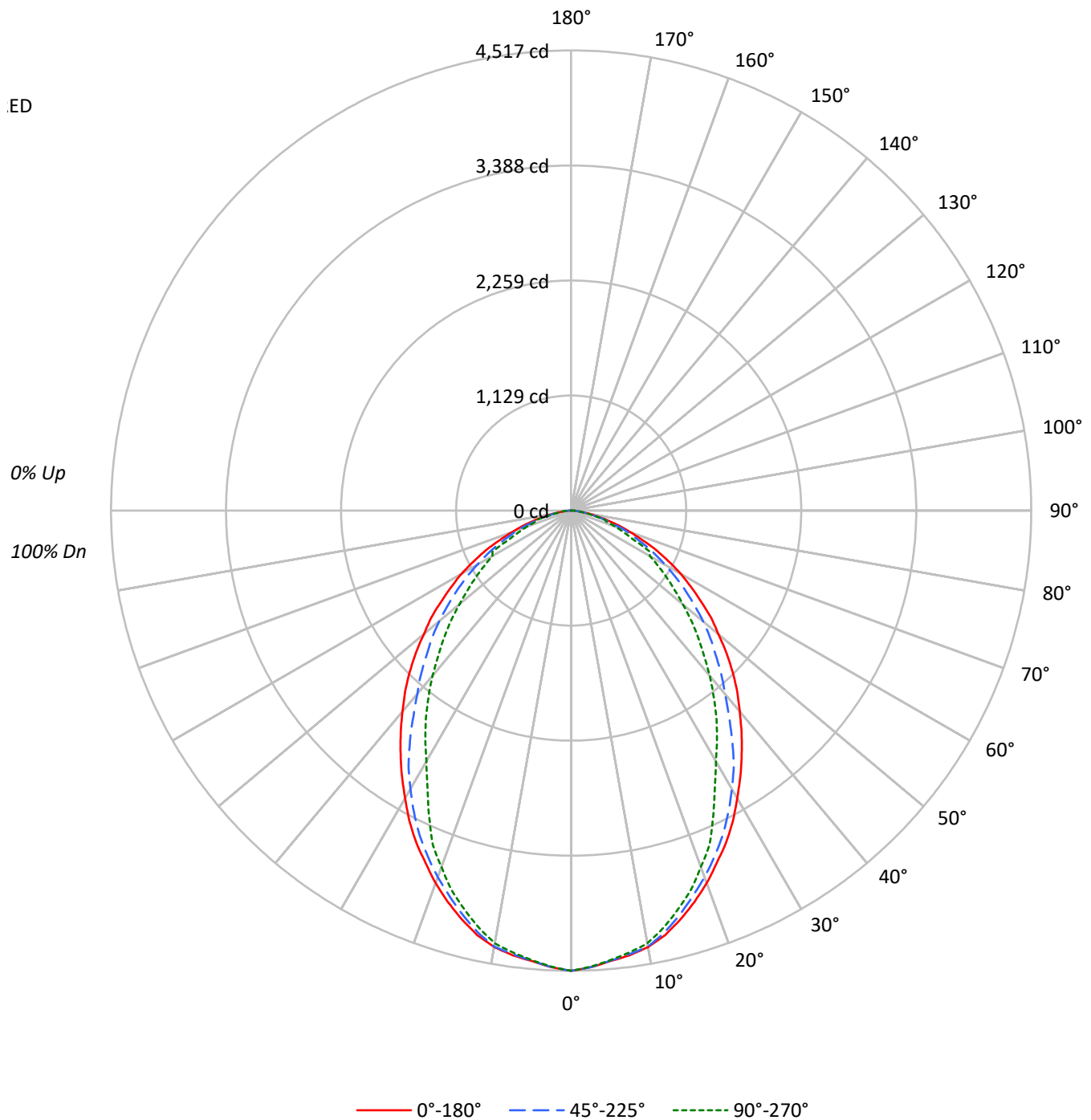
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6078	6078	6078
5°	5995	5988	5981
10°	5943	5936	5893
15°	5783	5725	5645
20°	5571	5481	5331
25°	5342	5225	4900
30°	5063	4900	4414
35°	4795	4529	4083
40°	4522	4128	3715
45°	4263	3816	3359
50°	3946	3542	2995
55°	3651	3210	2683
60°	3345	2867	2403
65°	2943	2511	2128
70°	2424	2198	1808
75°	1928	1683	1764
80°	1295	1214	1133
85°	806	968	1129

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4263 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	420.5	4.7
10°-20°	1154.0	13.0
20°-30°	1597.7	18.0
30°-40°	1703.6	19.2
40°-50°	1554.1	17.5
50°-60°	1217.5	13.7
60°-70°	793.5	8.9
70°-80°	351.6	4.0
80°-90°	75.5	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°	3172.2	35.8
0°-40°	4875.7	55.0
0°-60°	7647.4	86.2
0°-90°	8868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8868.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4517	4517	4517	4517	4517	
5°	4439	4434	4434	4428	4428	421
15°	4152	4152	4110	4068	4052	1167
25°	3598	3577	3520	3394	3300	1652
35°	2919	2898	2757	2548	2486	1825
45°	2240	2193	2005	1838	1765	1726
55°	1556	1509	1368	1206	1144	1396
65°	924	872	789	804	668	911
75°	371	345	324	308	339	397
85°	52	57	63	68	73	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4517.2	4517.2	4517.2	4517.2	4517.2
2.5°	4485.9	4485.9	4485.9	4480.7	4480.7
5°	4438.9	4433.7	4433.7	4428.5	4428.5
7.5°	4402.4	4397.1	4391.9	4386.7	4376.2
10°	4350.1	4350.1	4344.9	4318.8	4313.6
12.5°	4266.6	4261.4	4240.5	4203.9	4193.5
15°	4151.7	4151.7	4109.9	4068.1	4052.5
17.5°	4026.3	4021.1	3968.9	3927.1	3906.2
20°	3890.6	3880.1	3827.9	3760.0	3723.5
22.5°	3739.1	3739.1	3676.5	3587.7	3551.1
25°	3598.1	3577.2	3519.8	3394.5	3300.5
27.5°	3436.2	3404.9	3342.2	3164.7	3055.0
30°	3258.7	3243.0	3154.2	2924.5	2840.9
32.5°	3091.6	3065.5	2971.5	2731.2	2663.3
35°	2919.2	2898.3	2757.3	2548.5	2485.8
37.5°	2746.9	2720.8	2543.2	2376.1	2297.8
40°	2574.6	2543.2	2350.0	2198.6	2115.0
42.5°	2412.7	2370.9	2182.9	2021.0	1927.0
45°	2240.3	2193.3	2005.3	1838.2	1765.1
47.5°	2068.0	2026.2	1853.9	1681.6	1598.0
50°	1885.2	1848.7	1692.0	1519.7	1430.9
52.5°	1733.8	1676.3	1524.9	1352.6	1279.4
55°	1556.2	1509.2	1368.2	1206.3	1143.7
57.5°	1394.3	1347.3	1216.8	1065.3	1013.1
60°	1242.9	1175.0	1065.3	934.8	893.0
62.5°	1075.8	1023.6	929.6	819.9	872.1
65°	924.3	872.1	788.6	804.2	668.4
67.5°	757.2	731.1	658.0	584.9	564.0
70°	616.2	584.9	558.8	480.4	459.6
72.5°	490.9	459.6	423.0	381.2	365.6
75°	370.8	344.7	323.8	308.1	339.4
77.5°	255.9	245.4	229.8	214.1	208.9
80°	167.1	161.9	156.7	151.4	146.2
82.5°	99.2	99.2	99.2	99.2	99.2
85°	52.2	57.4	62.7	67.9	73.1
87.5°	31.3	31.3	36.6	41.8	47.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)