

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: P563291

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563291
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-35-UNV-82-94-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8149.0 lumens
Efficiency: N/A
Efficacy: 116.1 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

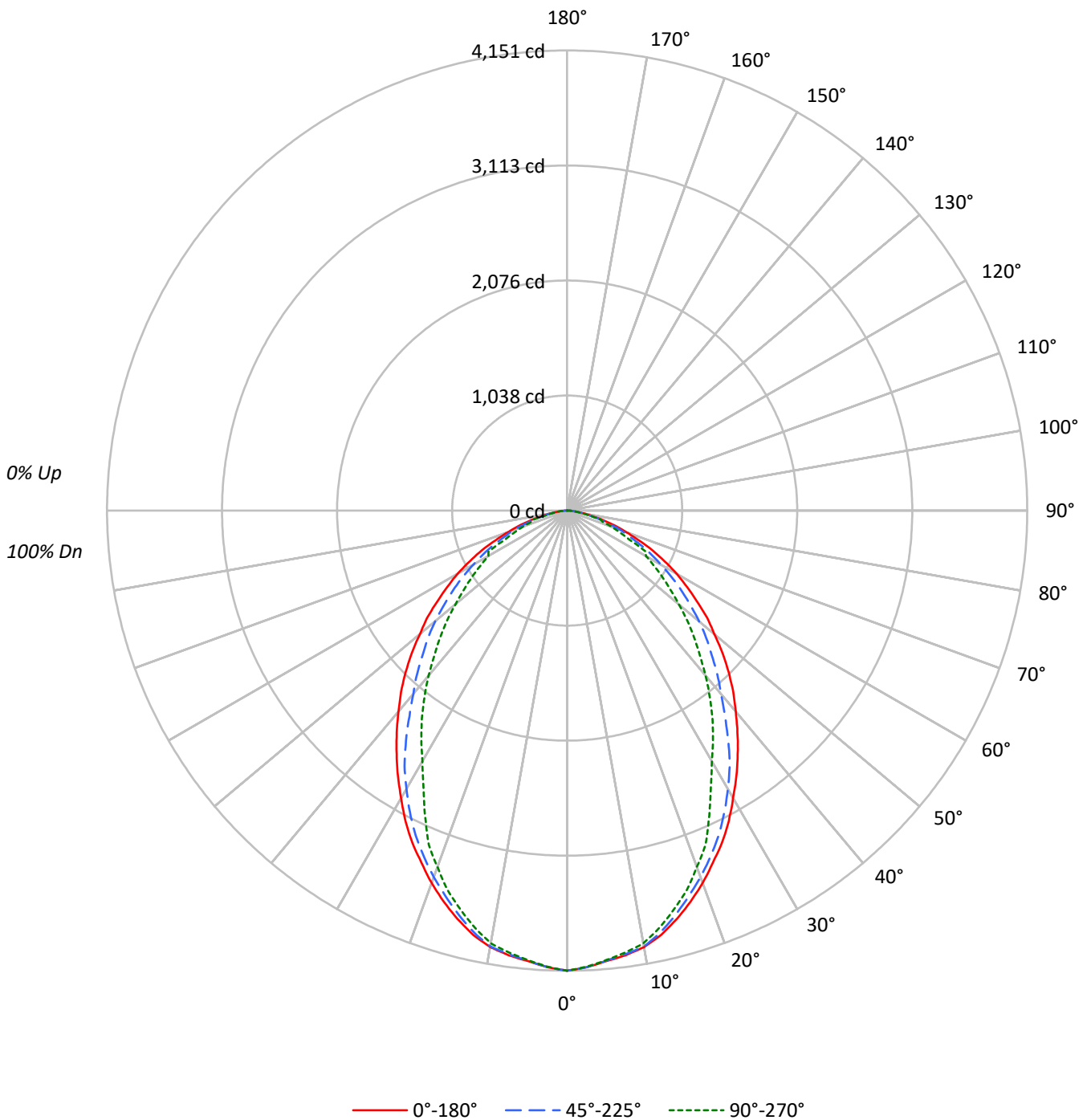
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5585	5585	5585
5°	5509	5503	5496
10°	5461	5455	5416
15°	5314	5261	5187
20°	5119	5036	4899
25°	4909	4802	4503
30°	4652	4503	4056
35°	4406	4162	3752
40°	4155	3793	3414
45°	3917	3506	3086
50°	3626	3255	2752
55°	3355	2949	2465
60°	3073	2634	2208
65°	2704	2307	1956
70°	2228	2020	1661
75°	1771	1547	1621
80°	1190	1116	1041
85°	741	889	1037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3917 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	386.4	4.7
10°-20°	1060.4	13.0
20°-30°	1468.1	18.0
30°-40°	1565.4	19.2
40°-50°	1428.1	17.5
50°-60°	1118.8	13.7
60°-70°	729.2	8.9
70°-80°	323.1	4.0
80°-90°	69.4	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°	2915.0	35.8
0°-40°	4480.4	55.0
0°-60°	7027.4	86.2
0°-90°	8149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8149.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4151	4151	4151	4151	4151	
5°	4079	4074	4074	4069	4069	387
15°	3815	3815	3777	3738	3724	1073
25°	3306	3287	3234	3119	3033	1518
35°	2682	2663	2534	2342	2284	1677
45°	2059	2016	1843	1689	1622	1586
55°	1430	1387	1257	1108	1051	1283
65°	849	801	725	739	614	837
75°	341	317	298	283	312	365
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4151.0	4151.0	4151.0	4151.0	4151.0
2.5°	4122.2	4122.2	4122.2	4117.4	4117.4
5°	4079.0	4074.2	4074.2	4069.4	4069.4
7.5°	4045.4	4040.6	4035.8	4031.0	4021.4
10°	3997.4	3997.4	3992.6	3968.6	3963.8
12.5°	3920.6	3915.8	3896.7	3863.1	3853.5
15°	3815.1	3815.1	3776.7	3738.3	3723.9
17.5°	3699.9	3695.1	3647.1	3608.7	3589.5
20°	3575.1	3565.5	3517.5	3455.2	3421.6
22.5°	3436.0	3436.0	3378.4	3296.8	3263.2
25°	3306.4	3287.2	3234.4	3119.2	3032.9
27.5°	3157.6	3128.8	3071.3	2908.1	2807.3
30°	2994.5	2980.1	2898.5	2687.3	2610.6
32.5°	2840.9	2816.9	2730.5	2509.8	2447.4
35°	2682.5	2663.4	2533.8	2341.8	2284.2
37.5°	2524.2	2500.2	2337.0	2183.5	2111.5
40°	2365.8	2337.0	2159.5	2020.3	1943.5
42.5°	2217.1	2178.7	2005.9	1857.1	1770.8
45°	2058.7	2015.5	1842.8	1689.2	1622.0
47.5°	1900.3	1861.9	1703.6	1545.2	1468.4
50°	1732.4	1698.8	1554.8	1396.5	1314.9
52.5°	1593.2	1540.4	1401.3	1242.9	1175.7
55°	1430.1	1386.9	1257.3	1108.5	1050.9
57.5°	1281.3	1238.1	1118.1	979.0	931.0
60°	1142.1	1079.7	979.0	859.0	820.6
62.5°	988.6	940.6	854.2	753.4	801.4
65°	849.4	801.4	724.6	739.0	614.3
67.5°	695.8	671.8	604.7	537.5	518.3
70°	566.3	537.5	513.5	441.5	422.3
72.5°	451.1	422.3	388.7	350.3	335.9
75°	340.7	316.7	297.5	283.1	311.9
77.5°	235.1	225.5	211.1	196.8	192.0
80°	153.6	148.8	144.0	139.2	134.4
82.5°	91.2	91.2	91.2	91.2	91.2
85°	48.0	52.8	57.6	62.4	67.2
87.5°	28.8	28.8	33.6	38.4	43.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)