

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: P561579

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561579
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-12-4-LD4-2LO-35-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4982.0 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

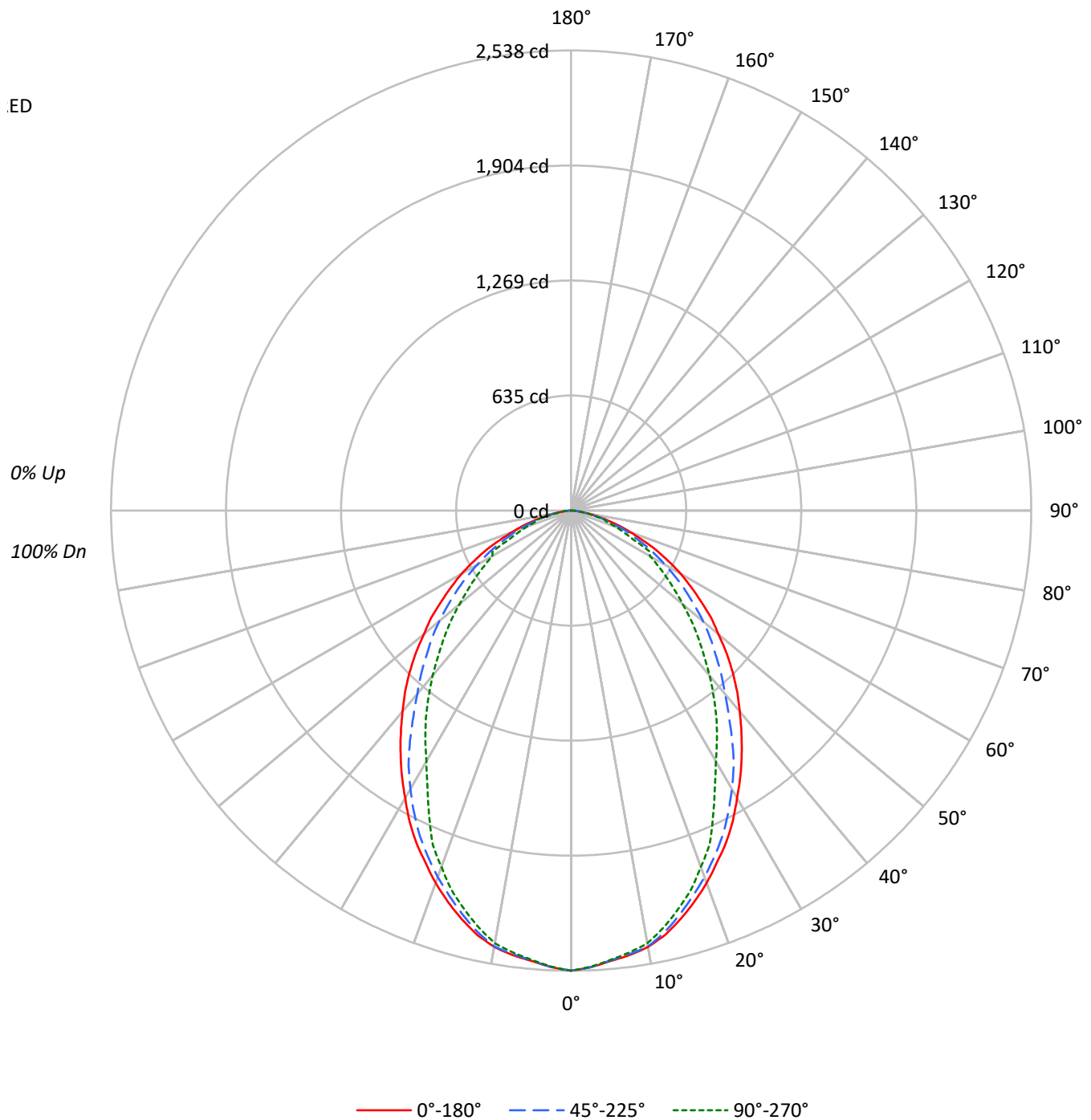
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	6829	6829	6829
5°	6736	6728	6720
10°	6678	6670	6622
15°	6498	6432	6343
20°	6259	6158	5990
25°	6002	5871	5505
30°	5688	5506	4959
35°	5388	5089	4588
40°	5081	4638	4174
45°	4790	4287	3774
50°	4434	3980	3365
55°	4102	3606	3014
60°	3758	3221	2700
65°	3307	2821	2391
70°	2724	2470	2031
75°	2166	1891	1983
80°	1455	1364	1272
85°	905	1087	1269

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4790 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.2	4.7
10°-20°	648.3	13.0
20°-30°	897.6	18.0
30°-40°	957.1	19.2
40°-50°	873.1	17.5
50°-60°	684.0	13.7
60°-70°	445.8	8.9
70°-80°	197.5	4.0
80°-90°	42.4	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°	1782.1	35.8
0°-40°	2739.2	55.0
0°-60°	4296.3	86.2
0°-90°	4982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4982.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2538	2538	2538	2538	2538	
5°	2494	2491	2491	2488	2488	237
15°	2332	2332	2309	2286	2277	656
25°	2021	2010	1977	1907	1854	928
35°	1640	1628	1549	1432	1396	1025
45°	1259	1232	1127	1033	992	969
55°	874	848	769	678	642	784
65°	519	490	443	452	376	512
75°	208	194	182	173	191	223
85°	29	32	35	38	41	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2537.8	2537.8	2537.8	2537.8	2537.8
2.5°	2520.2	2520.2	2520.2	2517.2	2517.2
5°	2493.8	2490.8	2490.8	2487.9	2487.9
7.5°	2473.2	2470.3	2467.4	2464.4	2458.6
10°	2443.9	2443.9	2440.9	2426.3	2423.3
12.5°	2396.9	2394.0	2382.3	2361.7	2355.9
15°	2332.4	2332.4	2308.9	2285.5	2276.7
17.5°	2262.0	2259.1	2229.7	2206.2	2194.5
20°	2185.7	2179.8	2150.5	2112.4	2091.8
22.5°	2100.6	2100.6	2065.4	2015.5	1995.0
25°	2021.4	2009.7	1977.4	1907.0	1854.2
27.5°	1930.5	1912.9	1877.7	1777.9	1716.3
30°	1830.7	1821.9	1772.0	1642.9	1596.0
32.5°	1736.8	1722.2	1669.4	1534.4	1496.3
35°	1640.0	1628.3	1549.1	1431.7	1396.5
37.5°	1543.2	1528.5	1428.8	1334.9	1290.9
40°	1446.4	1428.8	1320.2	1235.1	1188.2
42.5°	1355.4	1332.0	1226.3	1135.4	1082.6
45°	1258.6	1232.2	1126.6	1032.7	991.6
47.5°	1161.8	1138.3	1041.5	944.7	897.8
50°	1059.1	1038.6	950.6	853.7	803.9
52.5°	974.0	941.8	856.7	759.9	718.8
55°	874.3	847.9	768.7	677.7	642.5
57.5°	783.3	756.9	683.6	598.5	569.2
60°	698.3	660.1	598.5	525.2	501.7
62.5°	604.4	575.0	522.2	460.6	489.9
65°	519.3	489.9	443.0	451.8	375.5
67.5°	425.4	410.7	369.7	328.6	316.9
70°	346.2	328.6	313.9	269.9	258.2
72.5°	275.8	258.2	237.6	214.2	205.4
75°	208.3	193.6	181.9	173.1	190.7
77.5°	143.8	137.9	129.1	120.3	117.4
80°	93.9	90.9	88.0	85.1	82.1
82.5°	55.7	55.7	55.7	55.7	55.7
85°	29.3	32.3	35.2	38.1	41.1
87.5°	17.6	17.6	20.5	23.5	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)