

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: P561575

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561575
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-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4660.0 lumens
Efficiency: N/A
Efficacy: 99.6 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

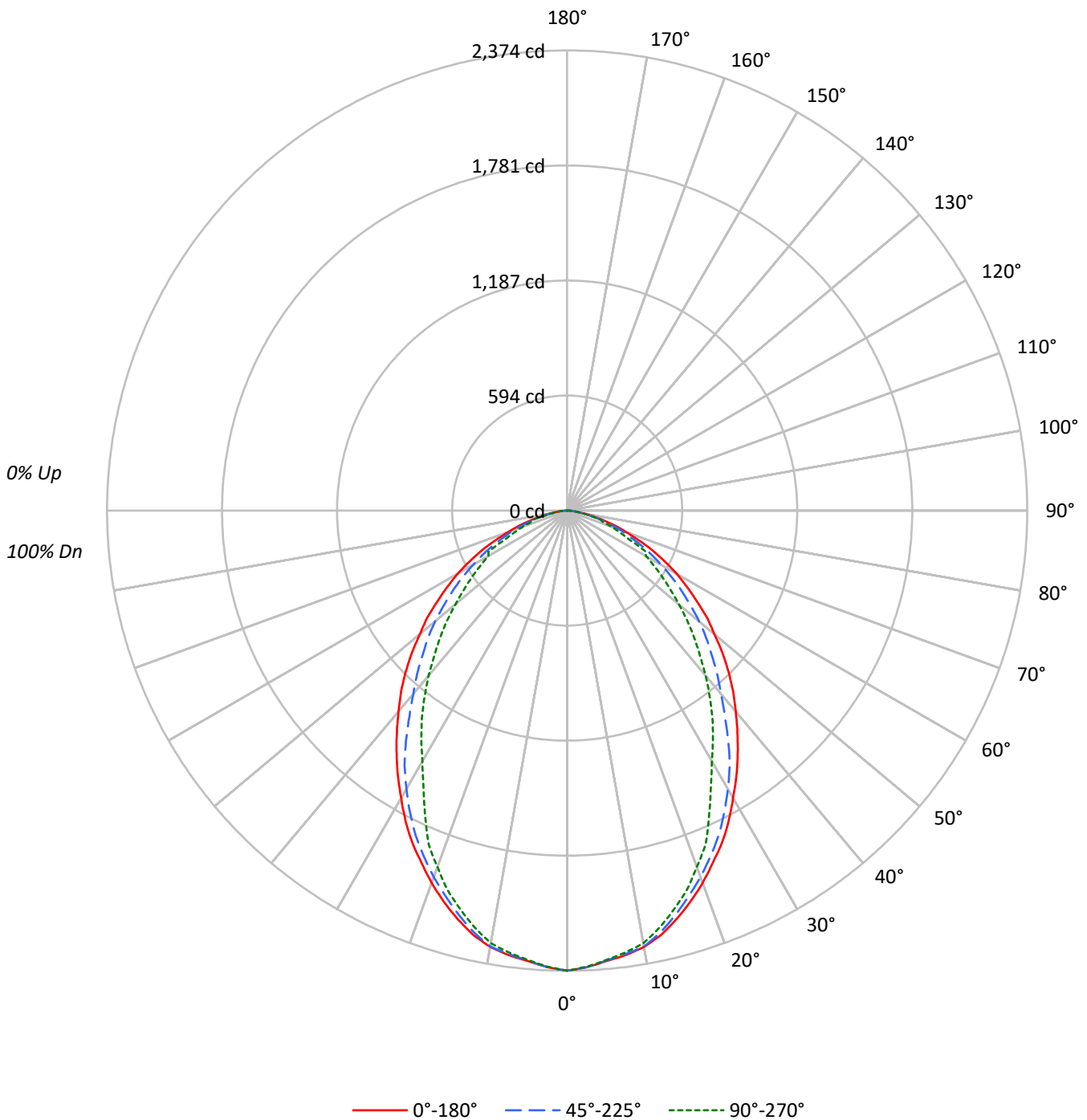
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6388	6388	6388
5°	6301	6293	6286
10°	6246	6239	6194
15°	6078	6017	5933
20°	5855	5760	5603
25°	5614	5492	5149
30°	5321	5150	4639
35°	5039	4760	4291
40°	4752	4338	3904
45°	4480	4010	3530
50°	4147	3722	3148
55°	3837	3373	2820
60°	3515	3013	2526
65°	3093	2639	2237
70°	2548	2310	1900
75°	2025	1769	1855
80°	1361	1275	1190
85°	846	1016	1186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4480 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.0	4.7
10°-20°	606.4	13.0
20°-30°	839.5	18.0
30°-40°	895.2	19.2
40°-50°	816.7	17.5
50°-60°	639.8	13.7
60°-70°	417.0	8.9
70°-80°	184.7	4.0
80°-90°	39.7	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°	1666.9	35.8
0°-40°	2562.1	55.0
0°-60°	4018.6	86.2
0°-90°	4660.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4660.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2374	2374	2374	2374	2374	
5°	2333	2330	2330	2327	2327	221
15°	2182	2182	2160	2138	2130	613
25°	1891	1880	1850	1784	1734	868
35°	1534	1523	1449	1339	1306	959
45°	1177	1153	1054	966	928	907
55°	818	793	719	634	601	733
65°	486	458	414	423	351	479
75°	195	181	170	162	178	209
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2373.7	2373.7	2373.7	2373.7	2373.7
2.5°	2357.3	2357.3	2357.3	2354.5	2354.5
5°	2332.6	2329.8	2329.8	2327.1	2327.1
7.5°	2313.4	2310.6	2307.9	2305.1	2299.6
10°	2285.9	2285.9	2283.2	2269.5	2266.7
12.5°	2242.0	2239.3	2228.3	2209.1	2203.6
15°	2181.6	2181.6	2159.7	2137.7	2129.5
17.5°	2115.8	2113.0	2085.6	2063.6	2052.7
20°	2044.4	2038.9	2011.5	1975.8	1956.6
22.5°	1964.9	1964.9	1931.9	1885.3	1866.1
25°	1890.8	1879.8	1849.6	1783.7	1734.3
27.5°	1805.7	1789.2	1756.3	1663.0	1605.4
30°	1712.4	1704.2	1657.5	1536.8	1492.9
32.5°	1624.6	1610.9	1561.5	1435.2	1399.5
35°	1534.0	1523.0	1448.9	1339.2	1306.2
37.5°	1443.5	1429.7	1336.4	1248.6	1207.5
40°	1352.9	1336.4	1234.9	1155.3	1111.4
42.5°	1267.8	1245.9	1147.1	1062.0	1012.6
45°	1177.3	1152.6	1053.8	966.0	927.5
47.5°	1086.7	1064.8	974.2	883.6	839.7
50°	990.7	971.5	889.1	798.6	751.9
52.5°	911.1	880.9	801.3	710.8	672.3
55°	817.8	793.1	719.0	633.9	601.0
57.5°	732.7	708.0	639.4	559.8	532.4
60°	653.1	617.4	559.8	491.2	469.3
62.5°	565.3	537.9	488.5	430.8	458.3
65°	485.7	458.3	414.4	422.6	351.3
67.5°	397.9	384.2	345.8	307.4	296.4
70°	323.8	307.4	293.6	252.5	241.5
72.5°	258.0	241.5	222.3	200.3	192.1
75°	194.8	181.1	170.1	161.9	178.4
77.5°	134.5	129.0	120.7	112.5	109.8
80°	87.8	85.1	82.3	79.6	76.8
82.5°	52.1	52.1	52.1	52.1	52.1
85°	27.4	30.2	32.9	35.7	38.4
87.5°	16.5	16.5	19.2	22.0	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)