

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: P561639

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561639
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4707.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

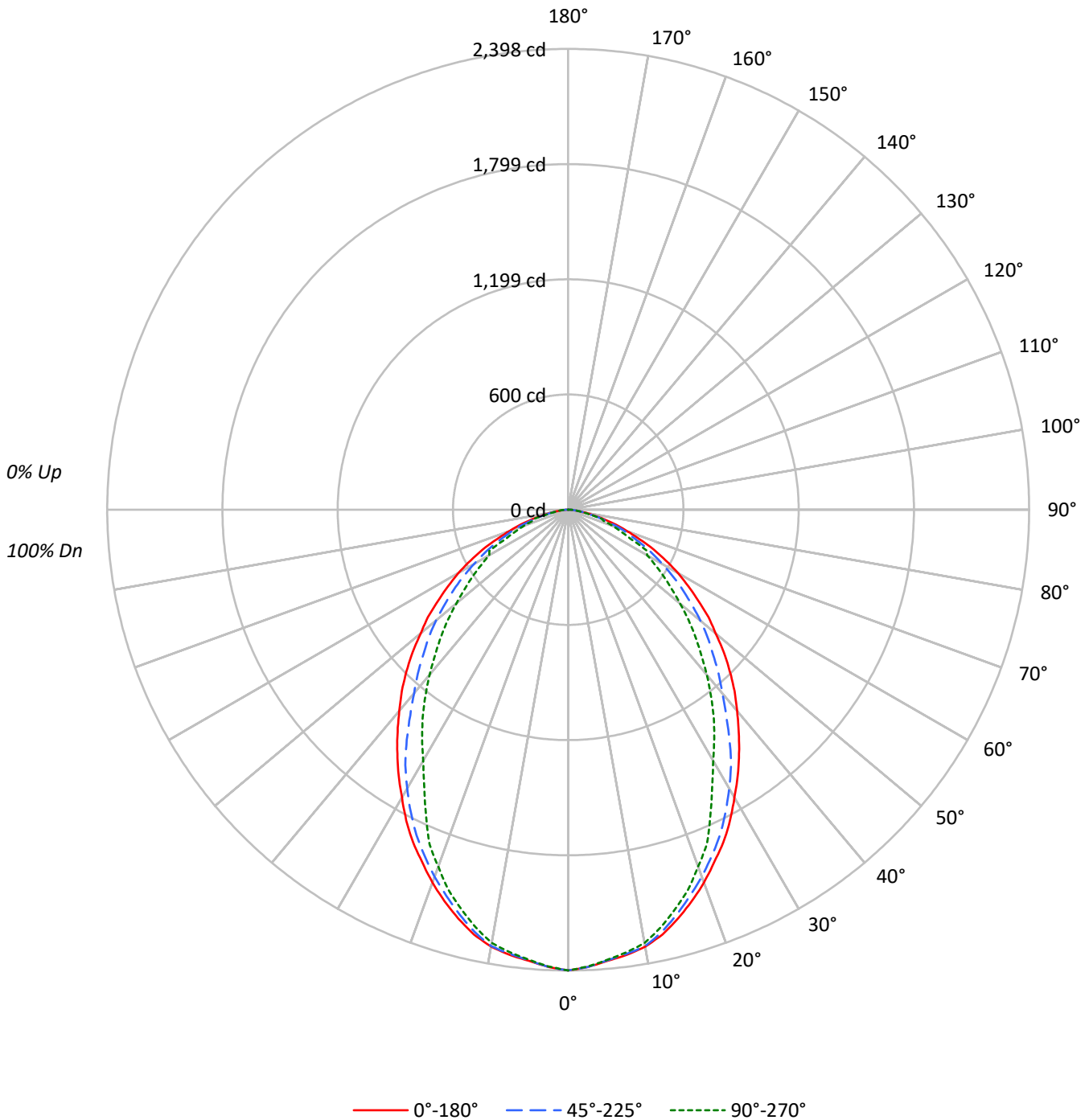
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	6452	6452	6452
5°	6364	6357	6350
10°	6309	6302	6256
15°	6139	6077	5992
20°	5914	5818	5660
25°	5671	5547	5201
30°	5375	5202	4685
35°	5090	4808	4334
40°	4800	4382	3943
45°	4525	4051	3565
50°	4189	3760	3180
55°	3875	3407	2848
60°	3550	3043	2551
65°	3124	2665	2259
70°	2574	2334	1919
75°	2046	1787	1874
80°	1375	1289	1203
85°	855	1028	1198

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4525 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.2	4.7
10°-20°	612.5	13.0
20°-30°	848.0	18.0
30°-40°	904.2	19.2
40°-50°	824.9	17.5
50°-60°	646.3	13.7
60°-70°	421.2	8.9
70°-80°	186.6	4.0
80°-90°	40.1	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°	1683.7	35.8
0°-40°	2588.0	55.0
0°-60°	4059.1	86.2
0°-90°	4707.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4707.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2398	2398	2398	2398	2398	
5°	2356	2353	2353	2351	2351	224
15°	2204	2204	2182	2159	2151	620
25°	1910	1899	1868	1802	1752	877
35°	1550	1538	1464	1353	1319	969
45°	1189	1164	1064	976	937	916
55°	826	801	726	640	607	741
65°	491	463	419	427	355	483
75°	197	183	172	164	180	211
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2397.7	2397.7	2397.7	2397.7	2397.7
2.5°	2381.1	2381.1	2381.1	2378.3	2378.3
5°	2356.1	2353.3	2353.3	2350.6	2350.6
7.5°	2336.7	2333.9	2331.2	2328.4	2322.8
10°	2309.0	2309.0	2306.2	2292.4	2289.6
12.5°	2264.6	2261.9	2250.8	2231.4	2225.8
15°	2203.7	2203.7	2181.5	2159.3	2151.0
17.5°	2137.1	2134.4	2106.6	2084.5	2073.4
20°	2065.1	2059.5	2031.8	1995.8	1976.4
22.5°	1984.7	1984.7	1951.4	1904.3	1884.9
25°	1909.8	1898.7	1868.3	1801.7	1751.8
27.5°	1823.9	1807.3	1774.0	1679.8	1621.6
30°	1729.7	1721.3	1674.2	1552.3	1507.9
32.5°	1641.0	1627.1	1577.2	1449.7	1413.7
35°	1549.5	1538.4	1463.6	1352.7	1319.4
37.5°	1458.0	1444.2	1349.9	1261.2	1219.6
40°	1366.5	1349.9	1247.3	1167.0	1122.6
42.5°	1280.6	1258.4	1158.6	1072.7	1022.8
45°	1189.1	1164.2	1064.4	975.7	936.9
47.5°	1097.7	1075.5	984.0	892.5	848.2
50°	1000.7	981.2	898.1	806.6	759.5
52.5°	920.3	889.8	809.4	717.9	679.1
55°	826.0	801.1	726.2	640.3	607.0
57.5°	740.1	715.1	645.8	565.5	537.7
60°	659.7	623.7	565.5	496.2	474.0
62.5°	571.0	543.3	493.4	435.2	462.9
65°	490.6	462.9	418.6	426.9	354.8
67.5°	401.9	388.1	349.3	310.5	299.4
70°	327.1	310.5	296.6	255.0	243.9
72.5°	260.6	243.9	224.5	202.3	194.0
75°	196.8	182.9	171.9	163.5	180.2
77.5°	135.8	130.3	122.0	113.6	110.9
80°	88.7	85.9	83.2	80.4	77.6
82.5°	52.7	52.7	52.7	52.7	52.7
85°	27.7	30.5	33.3	36.0	38.8
87.5°	16.6	16.6	19.4	22.2	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)