

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: P561559

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561559
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-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4326.0 lumens
Efficiency: N/A
Efficacy: 92.4 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

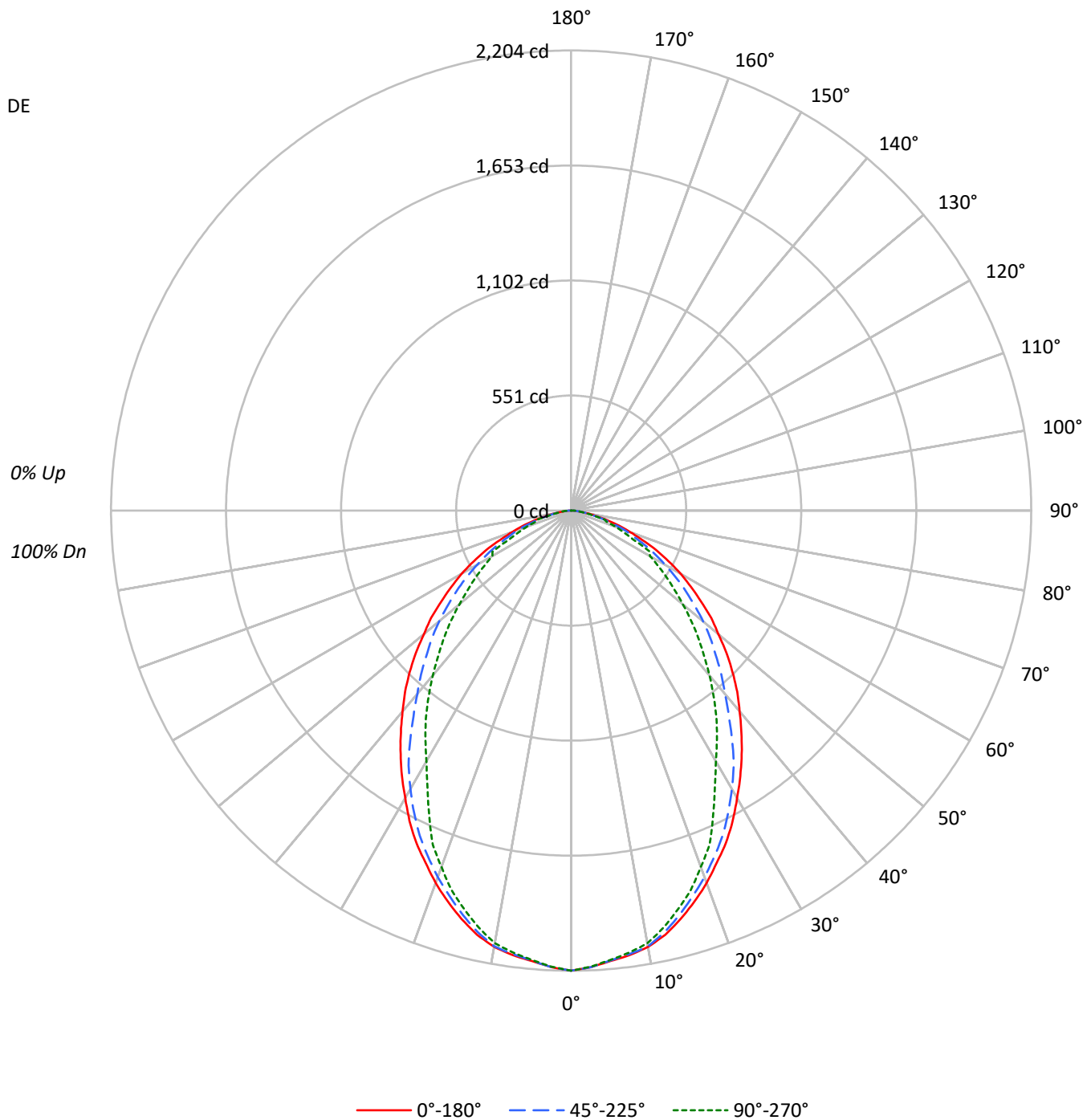
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5930	5930	5930
5°	5849	5842	5836
10°	5799	5792	5750
15°	5642	5585	5507
20°	5435	5347	5202
25°	5211	5098	4780
30°	4940	4781	4306
35°	4678	4419	3983
40°	4412	4027	3624
45°	4159	3723	3277
50°	3850	3455	2922
55°	3562	3132	2617
60°	3263	2797	2344
65°	2871	2450	2076
70°	2365	2145	1764
75°	1881	1642	1722
80°	1263	1184	1105
85°	787	945	1102

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4159 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.1	4.7
10°-20°	563.0	13.0
20°-30°	779.4	18.0
30°-40°	831.0	19.2
40°-50°	758.1	17.5
50°-60°	594.0	13.7
60°-70°	387.1	8.9
70°-80°	171.5	4.0
80°-90°	36.8	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°	1547.4	35.8
0°-40°	2378.5	55.0
0°-60°	3730.6	86.2
0°-90°	4326.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4326.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2204	2204	2204	2204	2204	
5°	2165	2163	2163	2160	2160	206
15°	2025	2025	2005	1984	1977	569
25°	1755	1745	1717	1656	1610	806
35°	1424	1414	1345	1243	1213	890
45°	1093	1070	978	897	861	842
55°	759	736	668	588	558	681
65°	451	425	385	392	326	444
75°	181	168	158	150	166	194
85°	26	28	31	33	36	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2203.6	2203.6	2203.6	2203.6	2203.6
2.5°	2188.3	2188.3	2188.3	2185.8	2185.8
5°	2165.4	2162.8	2162.8	2160.3	2160.3
7.5°	2147.6	2145.0	2142.5	2139.9	2134.8
10°	2122.1	2122.1	2119.5	2106.8	2104.3
12.5°	2081.3	2078.8	2068.6	2050.8	2045.7
15°	2025.3	2025.3	2004.9	1984.5	1976.9
17.5°	1964.1	1961.6	1936.1	1915.7	1905.5
20°	1897.9	1892.8	1867.3	1834.2	1816.4
22.5°	1824.0	1824.0	1793.5	1750.1	1732.3
25°	1755.2	1745.1	1717.0	1655.9	1610.0
27.5°	1676.3	1661.0	1630.4	1543.8	1490.3
30°	1589.7	1582.0	1538.7	1426.6	1385.9
32.5°	1508.1	1495.4	1449.5	1332.4	1299.2
35°	1424.1	1413.9	1345.1	1243.2	1212.6
37.5°	1340.0	1327.3	1240.6	1159.1	1120.9
40°	1255.9	1240.6	1146.4	1072.5	1031.7
42.5°	1177.0	1156.6	1064.9	985.9	940.0
45°	1092.9	1070.0	978.2	896.7	861.1
47.5°	1008.8	988.4	904.4	820.3	779.5
50°	919.7	901.8	825.4	741.3	698.0
52.5°	845.8	817.8	743.9	659.8	624.1
55°	759.2	736.2	667.5	588.5	557.9
57.5°	680.2	657.3	593.6	519.7	494.2
60°	606.3	573.2	519.7	456.0	435.6
62.5°	524.8	499.3	453.5	400.0	425.4
65°	450.9	425.4	384.7	392.3	326.1
67.5°	369.4	356.7	321.0	285.3	275.1
70°	300.6	285.3	272.6	234.4	224.2
72.5°	239.5	224.2	206.3	186.0	178.3
75°	180.9	168.1	157.9	150.3	165.6
77.5°	124.8	119.7	112.1	104.4	101.9
80°	81.5	79.0	76.4	73.9	71.3
82.5°	48.4	48.4	48.4	48.4	48.4
85°	25.5	28.0	30.6	33.1	35.7
87.5°	15.3	15.3	17.8	20.4	22.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)