

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: P561667

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561667
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-50-UNV-81-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4744.0 lumens
Efficiency: N/A
Efficacy: 101.4 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

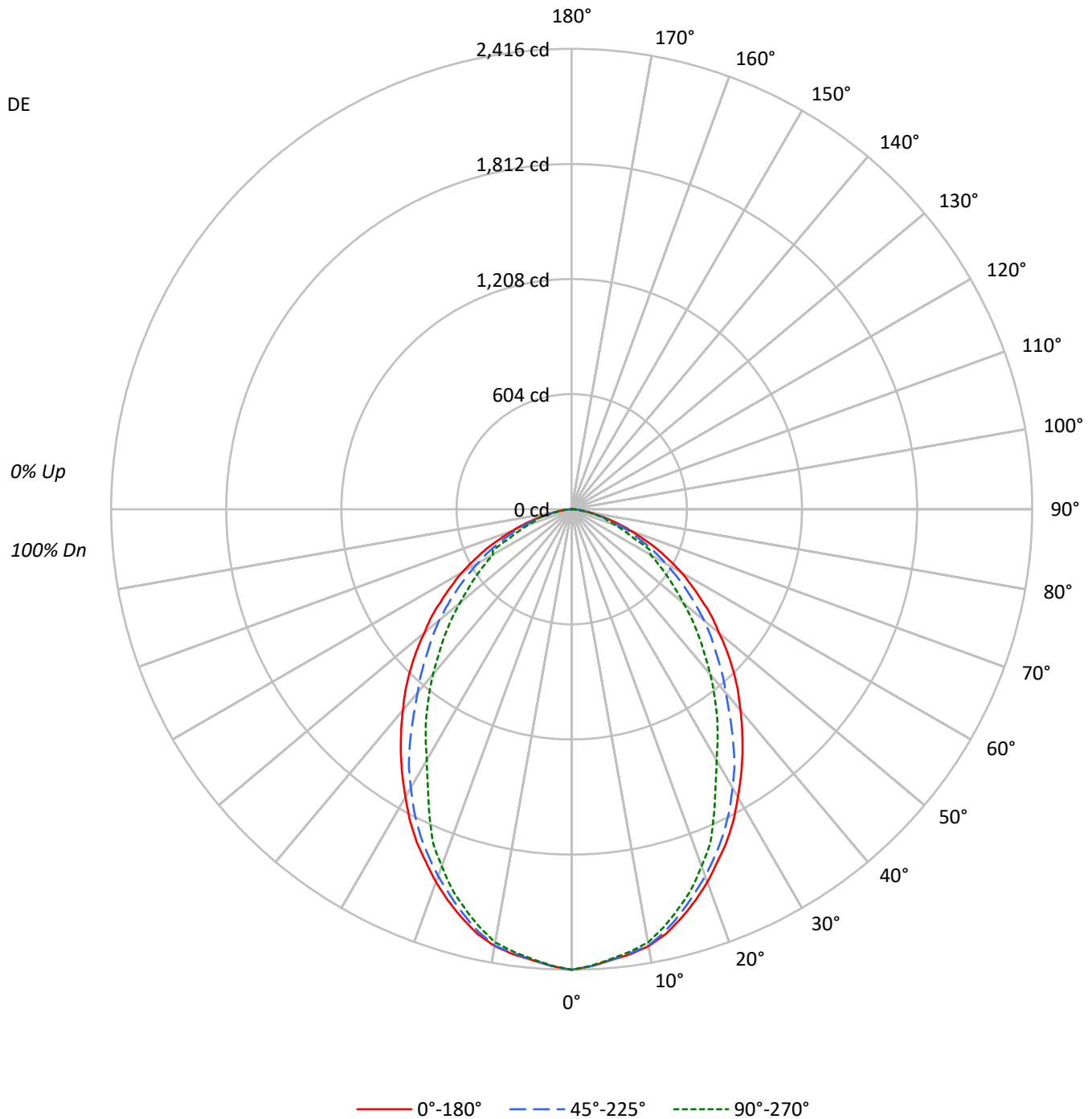
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6503	6503	6503
5°	6414	6407	6399
10°	6359	6351	6305
15°	6187	6125	6040
20°	5960	5864	5704
25°	5715	5591	5242
30°	5417	5243	4722
35°	5130	4846	4368
40°	4838	4416	3974
45°	4561	4083	3594
50°	4222	3790	3205
55°	3906	3434	2870
60°	3578	3067	2571
65°	3149	2686	2277
70°	2594	2352	1934
75°	2063	1801	1888
80°	1385	1299	1212
85°	861	1034	1207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4561 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.9	4.7
10°-20°	617.3	13.0
20°-30°	854.7	18.0
30°-40°	911.3	19.2
40°-50°	831.4	17.5
50°-60°	651.3	13.7
60°-70°	424.5	8.9
70°-80°	188.1	4.0
80°-90°	40.4	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°	1697.0	35.8
0°-40°	2608.3	55.0
0°-60°	4091.1	86.2
0°-90°	4744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2416	2416	2416	2416	2416	
5°	2375	2372	2372	2369	2369	225
15°	2221	2221	2199	2176	2168	624
25°	1925	1914	1883	1816	1766	884
35°	1562	1550	1475	1363	1330	976
45°	1198	1173	1073	983	944	923
55°	832	807	732	645	612	747
65°	494	466	422	430	358	487
75°	198	184	173	165	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2416.5	2416.5	2416.5	2416.5	2416.5
2.5°	2399.8	2399.8	2399.8	2397.0	2397.0
5°	2374.6	2371.8	2371.8	2369.0	2369.0
7.5°	2355.1	2352.3	2349.5	2346.7	2341.1
10°	2327.1	2327.1	2324.3	2310.4	2307.6
12.5°	2282.4	2279.6	2268.5	2248.9	2243.3
15°	2221.0	2221.0	2198.6	2176.3	2167.9
17.5°	2153.9	2151.1	2123.2	2100.8	2089.7
20°	2081.3	2075.7	2047.8	2011.4	1991.9
22.5°	2000.3	2000.3	1966.7	1919.3	1899.7
25°	1924.8	1913.7	1882.9	1815.9	1765.6
27.5°	1838.2	1821.5	1788.0	1693.0	1634.3
30°	1743.3	1734.9	1687.4	1564.5	1519.8
32.5°	1653.9	1639.9	1589.6	1461.1	1424.8
35°	1561.7	1550.5	1475.1	1363.3	1329.8
37.5°	1469.5	1455.5	1360.5	1271.1	1229.2
40°	1377.3	1360.5	1257.2	1176.1	1131.4
42.5°	1290.7	1268.3	1167.8	1081.2	1030.9
45°	1198.5	1173.3	1072.8	983.4	944.3
47.5°	1106.3	1083.9	991.8	899.6	854.9
50°	1008.5	989.0	905.2	813.0	765.5
52.5°	927.5	896.8	815.8	723.6	684.5
55°	832.5	807.4	731.9	645.3	611.8
57.5°	745.9	720.8	650.9	569.9	542.0
60°	664.9	628.6	569.9	500.1	477.7
62.5°	575.5	547.6	497.3	438.6	466.5
65°	494.5	466.5	421.8	430.2	357.6
67.5°	405.1	391.1	352.0	312.9	301.7
70°	329.7	312.9	298.9	257.0	245.8
72.5°	262.6	245.8	226.3	203.9	195.6
75°	198.4	184.4	173.2	164.8	181.6
77.5°	136.9	131.3	122.9	114.5	111.7
80°	89.4	86.6	83.8	81.0	78.2
82.5°	53.1	53.1	53.1	53.1	53.1
85°	27.9	30.7	33.5	36.3	39.1
87.5°	16.8	16.8	19.6	22.3	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)