

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: P561613

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561613
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-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

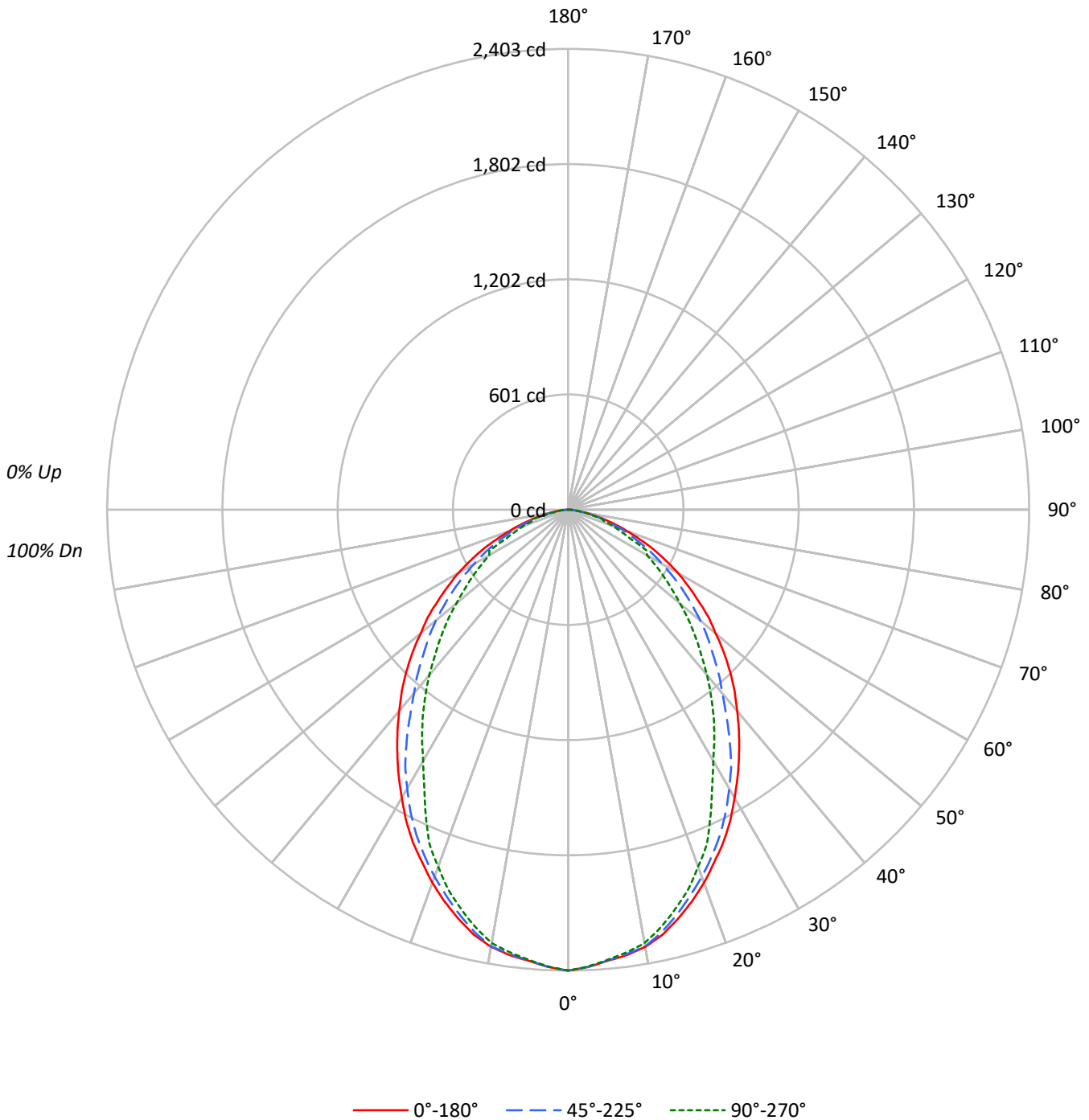
Lumens per Lamp: N/A
Luminaire Lumens: 4718.0 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	6467	6467	6467
5°	6379	6372	6364
10°	6324	6316	6271
15°	6154	6092	6006
20°	5928	5832	5673
25°	5684	5560	5214
30°	5387	5214	4696
35°	5102	4819	4345
40°	4812	4392	3953
45°	4536	4060	3574
50°	4199	3769	3187
55°	3885	3415	2855
60°	3559	3050	2557
65°	3131	2671	2264
70°	2579	2339	1924
75°	2051	1791	1878
80°	1378	1292	1206
85°	858	1028	1201

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4536 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.7	4.7
10°-20°	614.0	13.0
20°-30°	850.0	18.0
30°-40°	906.3	19.2
40°-50°	826.8	17.5
50°-60°	647.8	13.7
60°-70°	422.2	8.9
70°-80°	187.0	4.0
80°-90°	40.2	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°	1687.7	35.8
0°-40°	2594.0	55.0
0°-60°	4068.6	86.2
0°-90°	4718.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4718.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2403	2403	2403	2403	2403	
5°	2362	2359	2359	2356	2356	224
15°	2209	2209	2187	2164	2156	621
25°	1914	1903	1873	1806	1756	879
35°	1553	1542	1467	1356	1322	971
45°	1192	1167	1067	978	939	918
55°	828	803	728	642	608	743
65°	492	464	420	428	356	485
75°	197	183	172	164	181	211
85°	28	31	33	36	39	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2403.3	2403.3	2403.3	2403.3	2403.3
2.5°	2386.6	2386.6	2386.6	2383.8	2383.8
5°	2361.6	2358.8	2358.8	2356.1	2356.1
7.5°	2342.2	2339.4	2336.6	2333.8	2328.3
10°	2314.4	2314.4	2311.6	2297.7	2294.9
12.5°	2269.9	2267.1	2256.0	2236.6	2231.0
15°	2208.8	2208.8	2186.6	2164.3	2156.0
17.5°	2142.1	2139.3	2111.6	2089.3	2078.2
20°	2069.9	2064.3	2036.5	2000.4	1981.0
22.5°	1989.3	1989.3	1956.0	1908.7	1889.3
25°	1914.3	1903.2	1872.6	1805.9	1755.9
27.5°	1828.2	1811.5	1778.2	1683.7	1625.3
30°	1733.7	1725.4	1678.1	1555.9	1511.4
32.5°	1644.8	1630.9	1580.9	1453.1	1417.0
35°	1553.1	1542.0	1467.0	1355.8	1322.5
37.5°	1461.4	1447.5	1353.1	1264.2	1222.5
40°	1369.7	1353.1	1250.3	1169.7	1125.2
42.5°	1283.6	1261.4	1161.4	1075.2	1025.2
45°	1191.9	1166.9	1066.9	978.0	939.1
47.5°	1100.2	1078.0	986.3	894.6	850.2
50°	1003.0	983.5	900.2	808.5	761.3
52.5°	922.4	891.9	811.3	719.6	680.7
55°	828.0	802.9	727.9	641.8	608.5
57.5°	741.8	716.8	647.4	566.8	539.0
60°	661.3	625.1	566.8	497.3	475.1
62.5°	572.3	544.6	494.5	436.2	464.0
65°	491.8	464.0	419.5	427.9	355.6
67.5°	402.9	389.0	350.1	311.2	300.1
70°	327.8	311.2	297.3	255.6	244.5
72.5°	261.2	244.5	225.0	202.8	194.5
75°	197.3	183.4	172.3	163.9	180.6
77.5°	136.1	130.6	122.2	113.9	111.1
80°	88.9	86.1	83.4	80.6	77.8
82.5°	52.8	52.8	52.8	52.8	52.8
85°	27.8	30.6	33.3	36.1	38.9
87.5°	16.7	16.7	19.4	22.2	25.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)