

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: P561675

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561675
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-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4851.0 lumens
Efficiency: N/A
Efficacy: 103.7 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

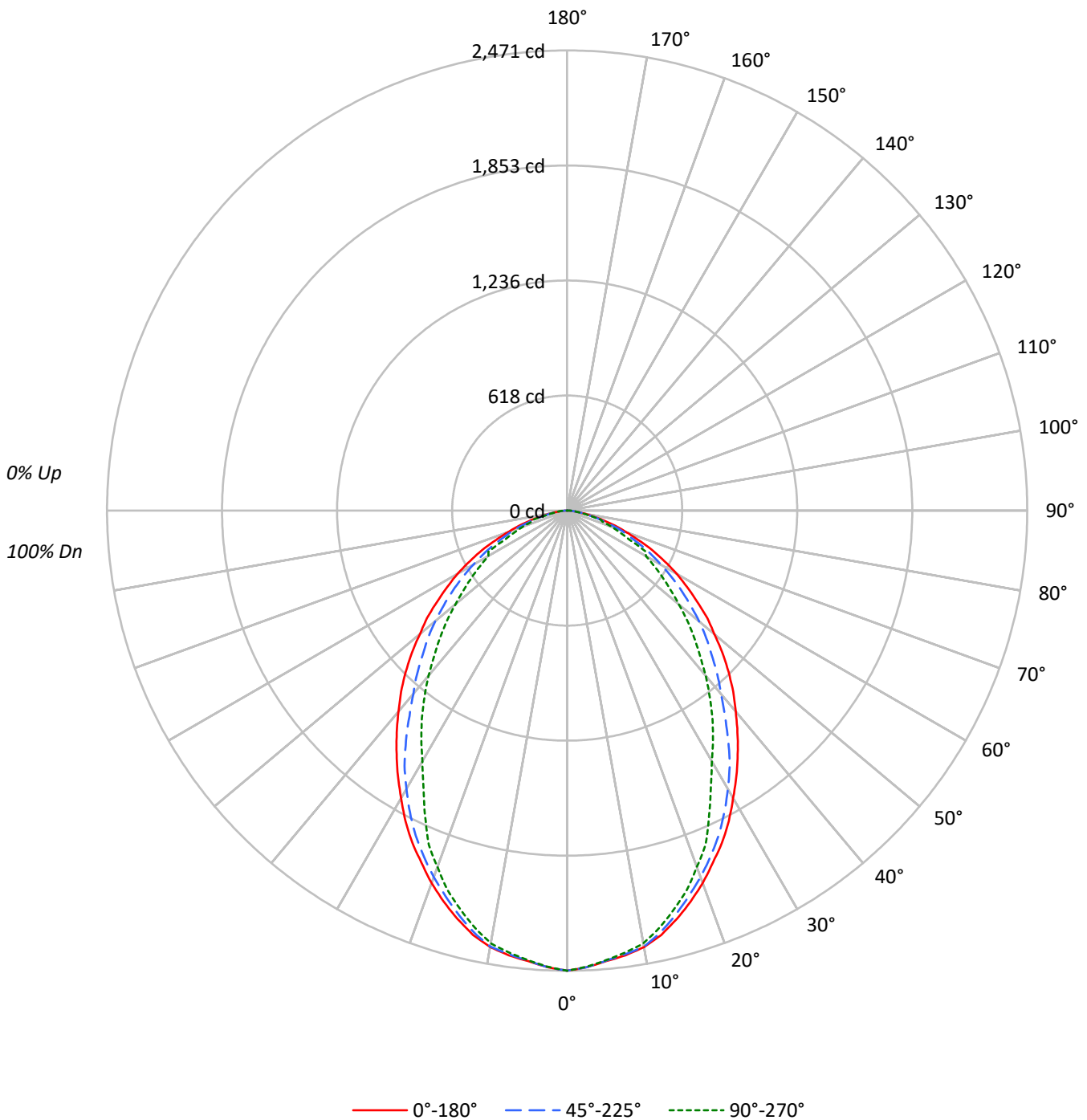
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6649	6649	6649
5°	6559	6551	6544
10°	6502	6495	6448
15°	6327	6263	6176
20°	6094	5997	5833
25°	5844	5717	5361
30°	5539	5361	4829
35°	5246	4955	4467
40°	4947	4516	4064
45°	4664	4175	3675
50°	4317	3875	3277
55°	3994	3512	2935
60°	3659	3137	2629
65°	3219	2747	2329
70°	2652	2405	1978
75°	2109	1841	1931
80°	1416	1328	1240
85°	883	1059	1235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4664 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.0	4.7
10°-20°	631.3	13.0
20°-30°	874.0	18.0
30°-40°	931.9	19.2
40°-50°	850.2	17.5
50°-60°	666.0	13.7
60°-70°	434.1	8.9
70°-80°	192.3	4.0
80°-90°	41.3	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°	1735.2	35.8
0°-40°	2667.1	55.0
0°-60°	4183.3	86.2
0°-90°	4851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2471	2471	2471	2471	2471	
5°	2428	2425	2425	2422	2422	230
15°	2271	2271	2248	2225	2217	638
25°	1968	1957	1925	1857	1805	904
35°	1597	1586	1508	1394	1360	998
45°	1226	1200	1097	1006	966	944
55°	851	826	748	660	626	764
65°	506	477	431	440	366	498
75°	203	188	177	168	186	217
85°	29	31	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2471.0	2471.0	2471.0	2471.0	2471.0
2.5°	2453.9	2453.9	2453.9	2451.0	2451.0
5°	2428.2	2425.3	2425.3	2422.5	2422.5
7.5°	2408.2	2405.3	2402.5	2399.6	2393.9
10°	2379.6	2379.6	2376.8	2362.5	2359.6
12.5°	2333.9	2331.1	2319.6	2299.6	2293.9
15°	2271.1	2271.1	2248.2	2225.4	2216.8
17.5°	2202.5	2199.6	2171.1	2148.2	2136.8
20°	2128.2	2122.5	2094.0	2056.8	2036.8
22.5°	2045.4	2045.4	2011.1	1962.5	1942.5
25°	1968.3	1956.8	1925.4	1856.8	1805.4
27.5°	1879.7	1862.6	1828.3	1731.2	1671.2
30°	1782.6	1774.0	1725.4	1599.7	1554.0
32.5°	1691.2	1676.9	1625.5	1494.0	1456.9
35°	1596.9	1585.5	1508.3	1394.1	1359.8
37.5°	1502.6	1488.3	1391.2	1299.8	1256.9
40°	1408.3	1391.2	1285.5	1202.7	1157.0
42.5°	1319.8	1296.9	1194.1	1105.5	1054.1
45°	1225.5	1199.8	1097.0	1005.6	965.6
47.5°	1131.2	1108.4	1014.1	919.9	874.1
50°	1031.3	1011.3	925.6	831.3	782.7
52.5°	948.4	917.0	834.2	739.9	699.9
55°	851.3	825.6	748.5	659.9	625.6
57.5°	762.7	737.0	665.6	582.8	554.2
60°	679.9	642.8	582.8	511.3	488.5
62.5°	588.5	559.9	508.5	448.5	477.1
65°	505.6	477.1	431.4	439.9	365.7
67.5°	414.2	399.9	359.9	319.9	308.5
70°	337.1	319.9	305.7	262.8	251.4
72.5°	268.5	251.4	231.4	208.5	200.0
75°	202.8	188.5	177.1	168.5	185.7
77.5°	140.0	134.3	125.7	117.1	114.3
80°	91.4	88.6	85.7	82.8	80.0
82.5°	54.3	54.3	54.3	54.3	54.3
85°	28.6	31.4	34.3	37.1	40.0
87.5°	17.1	17.1	20.0	22.9	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)