

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: P561818

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561818
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-LD4-2STD-40-UNV-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5255.0 lumens
Efficiency: N/A
Efficacy: 78.9 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

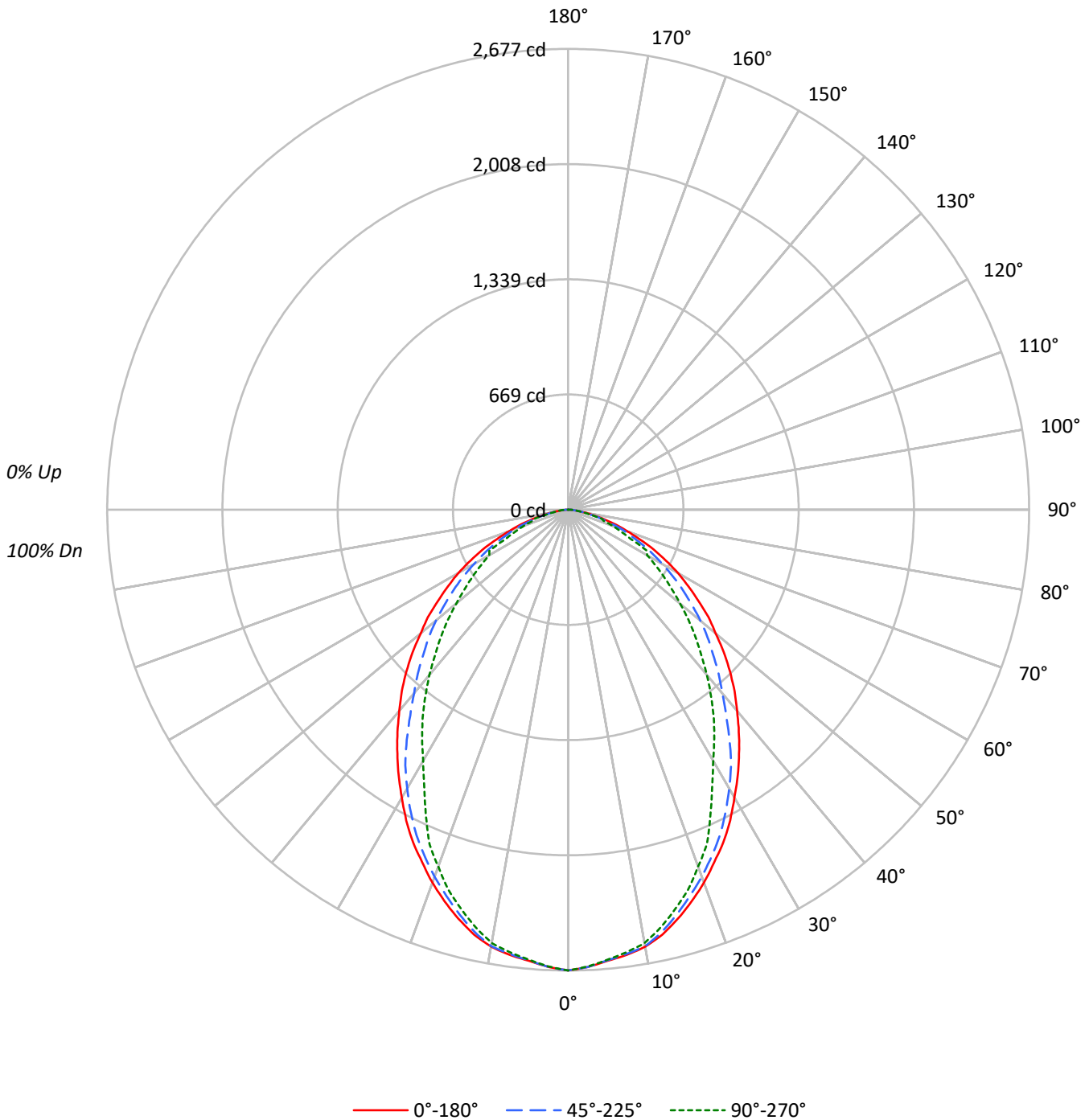
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7203	7203	7203
5°	7105	7097	7089
10°	7044	7035	6985
15°	6854	6785	6690
20°	6602	6496	6318
25°	6331	6193	5807
30°	6000	5808	5231
35°	5683	5367	4839
40°	5359	4892	4403
45°	5052	4522	3981
50°	4677	4197	3550
55°	4327	3804	3179
60°	3964	3398	2848
65°	3487	2975	2522
70°	2873	2605	2142
75°	2284	1995	2091
80°	1534	1438	1342
85°	954	1145	1337

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5052 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.2	4.7
10°-20°	683.8	13.0
20°-30°	946.7	18.0
30°-40°	1009.5	19.2
40°-50°	920.9	17.5
50°-60°	721.5	13.7
60°-70°	470.2	8.9
70°-80°	208.3	4.0
80°-90°	44.7	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°	1879.8	35.8
0°-40°	2889.2	55.0
0°-60°	4531.7	86.2
0°-90°	5255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5255.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2677	2677	2677	2677	2677	
5°	2630	2627	2627	2624	2624	250
15°	2460	2460	2435	2411	2401	692
25°	2132	2120	2086	2012	1956	979
35°	1730	1718	1634	1510	1473	1081
45°	1328	1300	1188	1089	1046	1023
55°	922	894	811	715	678	827
65°	548	517	467	477	396	540
75°	220	204	192	183	201	235
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2676.8	2676.8	2676.8	2676.8	2676.8
2.5°	2658.3	2658.3	2658.3	2655.2	2655.2
5°	2630.4	2627.3	2627.3	2624.2	2624.2
7.5°	2608.7	2605.7	2602.6	2599.5	2593.3
10°	2577.8	2577.8	2574.7	2559.2	2556.1
12.5°	2528.3	2525.2	2512.8	2491.2	2485.0
15°	2460.2	2460.2	2435.4	2410.7	2401.4
17.5°	2385.9	2382.8	2351.9	2327.1	2314.8
20°	2305.5	2299.3	2268.3	2228.1	2206.4
22.5°	2215.7	2215.7	2178.6	2126.0	2104.3
25°	2132.2	2119.8	2085.8	2011.5	1955.8
27.5°	2036.2	2017.7	1980.5	1875.3	1810.3
30°	1931.0	1921.7	1869.1	1733.0	1683.5
32.5°	1832.0	1816.5	1760.8	1618.5	1578.2
35°	1729.9	1717.5	1633.9	1510.2	1473.0
37.5°	1627.8	1612.3	1507.1	1408.0	1361.6
40°	1525.6	1507.1	1392.6	1302.8	1253.3
42.5°	1429.7	1404.9	1293.5	1197.6	1141.9
45°	1327.6	1299.7	1188.3	1089.3	1046.0
47.5°	1225.5	1200.7	1098.6	996.5	946.9
50°	1117.1	1095.5	1002.6	900.5	847.9
52.5°	1027.4	993.4	903.6	801.5	758.2
55°	922.2	894.3	810.8	714.9	677.7
57.5°	826.3	798.4	721.0	631.3	600.4
60°	736.5	696.3	631.3	553.9	529.2
62.5°	637.5	606.5	550.8	485.9	516.8
65°	547.7	516.8	467.3	476.6	396.1
67.5°	448.7	433.2	389.9	346.6	334.2
70°	365.2	346.6	331.1	284.7	272.3
72.5°	290.9	272.3	250.7	225.9	216.6
75°	219.7	204.2	191.9	182.6	201.1
77.5°	151.6	145.4	136.2	126.9	123.8
80°	99.0	95.9	92.8	89.7	86.6
82.5°	58.8	58.8	58.8	58.8	58.8
85°	30.9	34.0	37.1	40.2	43.3
87.5°	18.6	18.6	21.7	24.8	27.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)