

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: P561244

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561244
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-LD4-1STD-40-UNV-82-96-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 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: 2598.0 lumens
Efficiency: N/A
Efficacy: 78.0 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

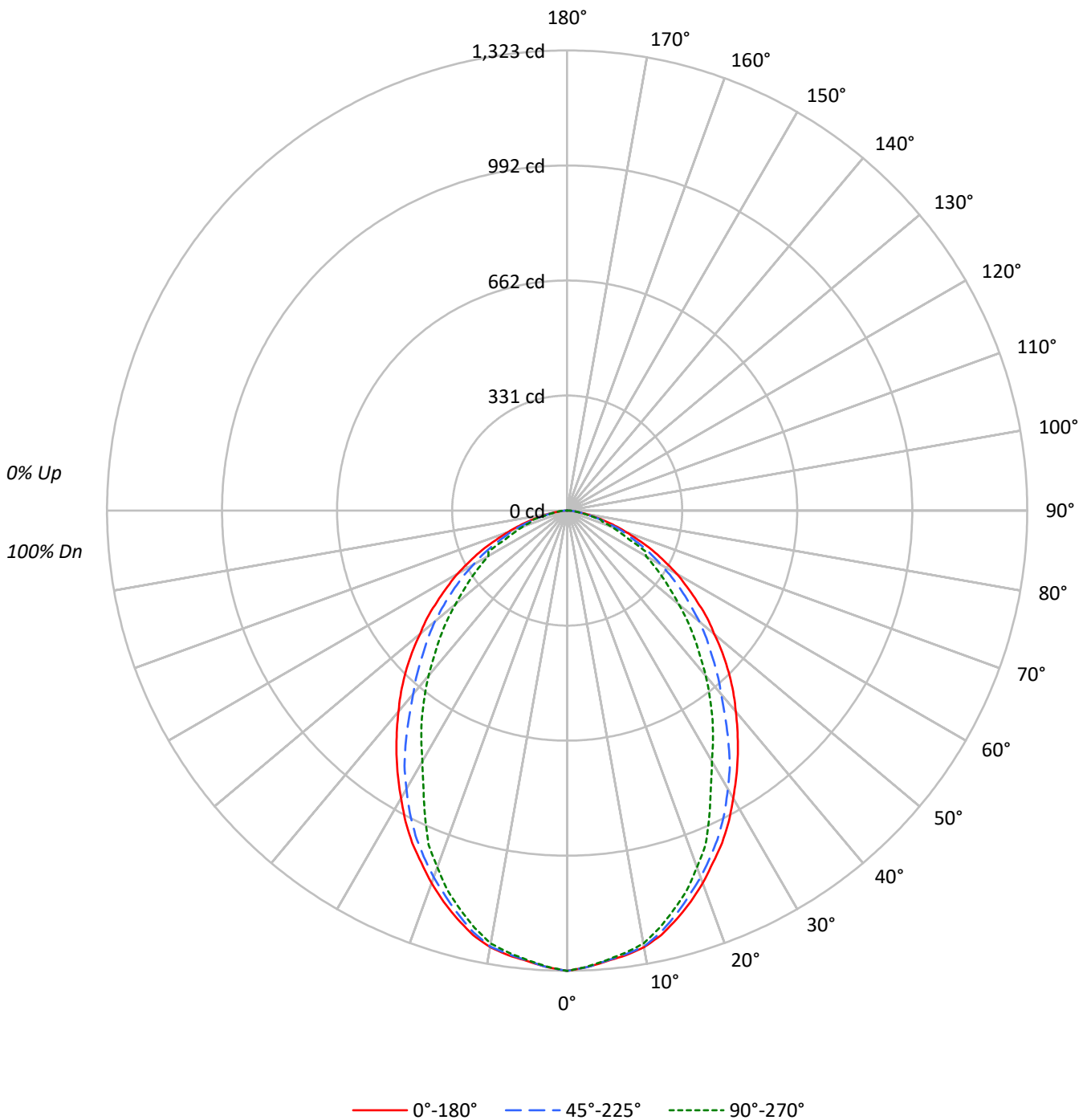
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3561	3561	3561
5°	3513	3509	3505
10°	3482	3478	3453
15°	3388	3355	3307
20°	3264	3211	3124
25°	3130	3062	2871
30°	2967	2871	2586
35°	2809	2654	2392
40°	2650	2419	2177
45°	2498	2236	1968
50°	2312	2075	1755
55°	2139	1880	1572
60°	1960	1680	1408
65°	1724	1471	1247
70°	1420	1288	1059
75°	1129	987	1033
80°	759	711	663
85°	472	568	661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2498 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.2	4.7
10°-20°	338.1	13.0
20°-30°	468.1	18.0
30°-40°	499.1	19.2
40°-50°	455.3	17.5
50°-60°	356.7	13.7
60°-70°	232.5	8.9
70°-80°	103.0	4.0
80°-90°	22.1	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°	929.3	35.8
0°-40°	1428.4	55.0
0°-60°	2240.4	86.2
0°-90°	2598.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2598.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1323	1323	1323	1323	1323	
5°	1300	1299	1299	1297	1297	123
15°	1216	1216	1204	1192	1187	342
25°	1054	1048	1031	994	967	484
35°	855	849	808	747	728	535
45°	656	643	588	538	517	506
55°	456	442	401	353	335	409
65°	271	256	231	236	196	267
75°	109	101	95	90	99	116
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1323.4	1323.4	1323.4	1323.4	1323.4
2.5°	1314.2	1314.2	1314.2	1312.7	1312.7
5°	1300.4	1298.9	1298.9	1297.4	1297.4
7.5°	1289.7	1288.2	1286.7	1285.1	1282.1
10°	1274.4	1274.4	1272.9	1265.2	1263.7
12.5°	1250.0	1248.4	1242.3	1231.6	1228.5
15°	1216.3	1216.3	1204.1	1191.8	1187.2
17.5°	1179.6	1178.0	1162.7	1150.5	1144.4
20°	1139.8	1136.7	1121.4	1101.5	1090.8
22.5°	1095.4	1095.4	1077.1	1051.1	1040.4
25°	1054.1	1048.0	1031.2	994.5	966.9
27.5°	1006.7	997.5	979.2	927.1	895.0
30°	954.7	950.1	924.1	856.8	832.3
32.5°	905.7	898.1	870.5	800.2	780.3
35°	855.2	849.1	807.8	746.6	728.2
37.5°	804.7	797.1	745.1	696.1	673.2
40°	754.3	745.1	688.5	644.1	619.6
42.5°	706.8	694.6	639.5	592.1	564.5
45°	656.3	642.6	587.5	538.5	517.1
47.5°	605.9	593.6	543.1	492.6	468.2
50°	552.3	541.6	495.7	445.2	419.2
52.5°	507.9	491.1	446.7	396.3	374.8
55°	455.9	442.1	400.8	353.4	335.1
57.5°	408.5	394.7	356.5	312.1	296.8
60°	364.1	344.2	312.1	273.9	261.6
62.5°	315.2	299.9	272.3	240.2	255.5
65°	270.8	255.5	231.0	235.6	195.8
67.5°	221.8	214.2	192.8	171.4	165.2
70°	180.5	171.4	163.7	140.8	134.6
72.5°	143.8	134.6	123.9	111.7	107.1
75°	108.6	101.0	94.9	90.3	99.4
77.5°	75.0	71.9	67.3	62.7	61.2
80°	49.0	47.4	45.9	44.4	42.8
82.5°	29.1	29.1	29.1	29.1	29.1
85°	15.3	16.8	18.4	19.9	21.4
87.5°	9.2	9.2	10.7	12.2	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)