

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: P561228

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561228
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-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 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: 2654.0 lumens
Efficiency: N/A
Efficacy: 79.7 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

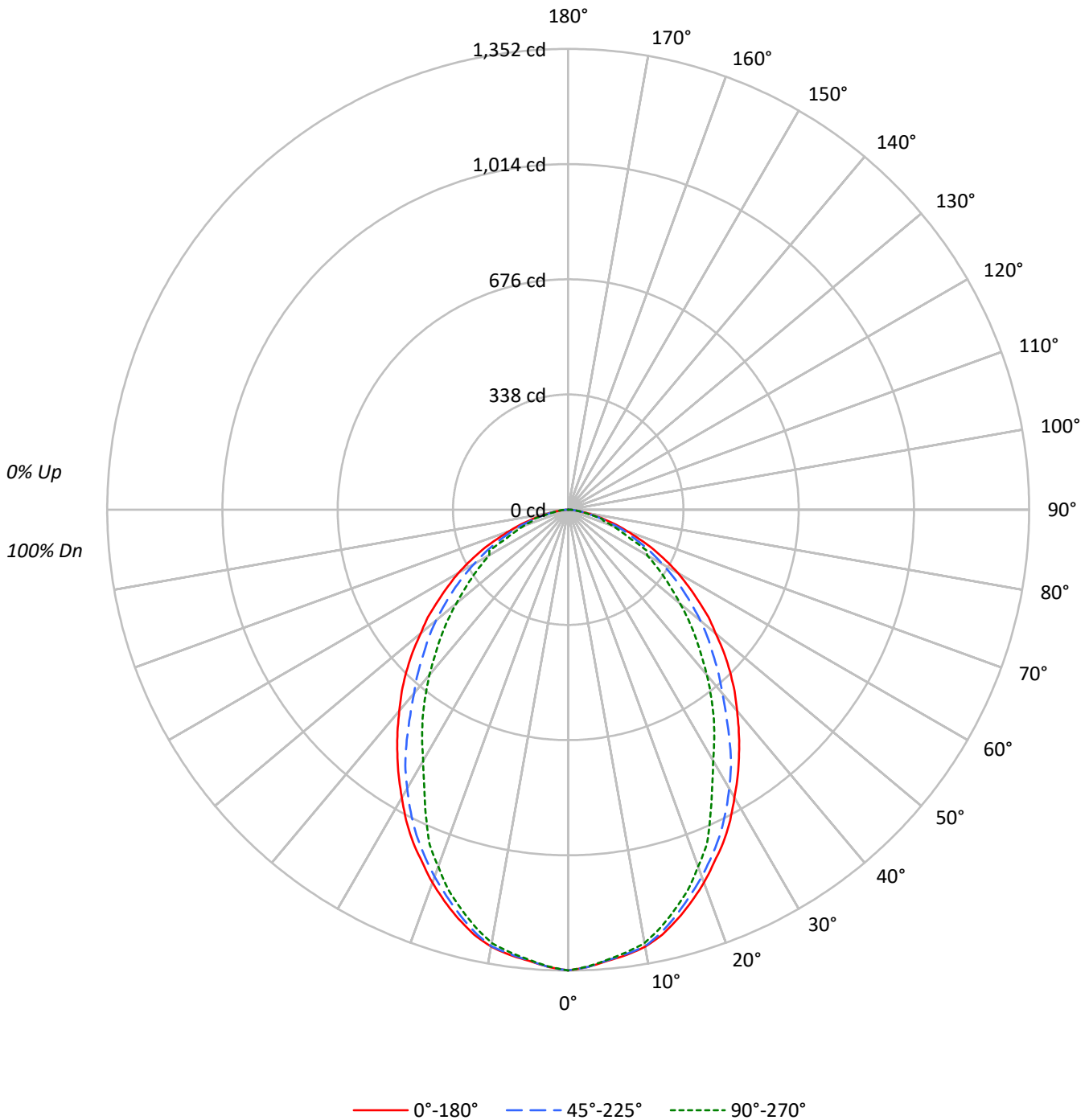
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561228

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561228

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-96-EDD-90

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°	3638	3638	3638
5°	3589	3584	3580
10°	3557	3553	3528
15°	3461	3427	3379
20°	3334	3281	3191
25°	3197	3128	2933
30°	3031	2933	2642
35°	2870	2711	2444
40°	2707	2471	2224
45°	2552	2284	2011
50°	2362	2120	1793
55°	2185	1921	1606
60°	2002	1716	1439
65°	1761	1503	1274
70°	1451	1316	1082
75°	1154	1007	1056
80°	775	727	679
85°	482	580	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2552 cd/sqm



TEST NUMBER: P561228

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.8	4.7
10°-20°	345.4	13.0
20°-30°	478.1	18.0
30°-40°	509.8	19.2
40°-50°	465.1	17.5
50°-60°	364.4	13.7
60°-70°	237.5	8.9
70°-80°	105.2	4.0
80°-90°	22.6	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°	949.4	35.8
0°-40°	1459.2	55.0
0°-60°	2288.7	86.2
0°-90°	2654.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2654.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1352	1352	1352	1352	1352	
5°	1328	1327	1327	1325	1325	126
15°	1242	1242	1230	1218	1213	349
25°	1077	1071	1053	1016	988	494
35°	874	867	825	763	744	546
45°	670	656	600	550	528	516
55°	466	452	410	361	342	418
65°	277	261	236	241	200	273
75°	111	103	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



TEST NUMBER: P561228

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-81-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1351.9	1351.9	1351.9	1351.9	1351.9
2.5°	1342.5	1342.5	1342.5	1341.0	1341.0
5°	1328.5	1326.9	1326.9	1325.3	1325.3
7.5°	1317.5	1316.0	1314.4	1312.8	1309.7
10°	1301.9	1301.9	1300.3	1292.5	1291.0
12.5°	1276.9	1275.3	1269.1	1258.1	1255.0
15°	1242.5	1242.5	1230.0	1217.5	1212.8
17.5°	1205.0	1203.4	1187.8	1175.3	1169.1
20°	1164.4	1161.2	1145.6	1125.3	1114.4
22.5°	1119.0	1119.0	1100.3	1073.7	1062.8
25°	1076.8	1070.6	1053.4	1015.9	987.8
27.5°	1028.4	1019.0	1000.3	947.1	914.3
30°	975.3	970.6	944.0	875.2	850.2
32.5°	925.2	917.4	889.3	817.4	797.1
35°	873.7	867.4	825.2	762.7	743.9
37.5°	822.1	814.3	761.1	711.1	687.7
40°	770.5	761.1	703.3	658.0	633.0
42.5°	722.1	709.6	653.3	604.8	576.7
45°	670.5	656.4	600.2	550.1	528.3
47.5°	618.9	606.4	554.8	503.3	478.2
50°	564.2	553.3	506.4	454.8	428.2
52.5°	518.9	501.7	456.4	404.8	382.9
55°	465.7	451.7	409.5	361.0	342.3
57.5°	417.3	403.2	364.2	318.8	303.2
60°	372.0	351.7	318.8	279.8	267.3
62.5°	322.0	306.3	278.2	245.4	261.0
65°	276.6	261.0	236.0	240.7	200.1
67.5°	226.6	218.8	196.9	175.0	168.8
70°	184.4	175.0	167.2	143.8	137.5
72.5°	146.9	137.5	126.6	114.1	109.4
75°	111.0	103.2	96.9	92.2	101.6
77.5°	76.6	73.5	68.8	64.1	62.5
80°	50.0	48.5	46.9	45.3	43.8
82.5°	29.7	29.7	29.7	29.7	29.7
85°	15.6	17.2	18.8	20.3	21.9
87.5°	9.4	9.4	10.9	12.5	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)