

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: P561238

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561238
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-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2458.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

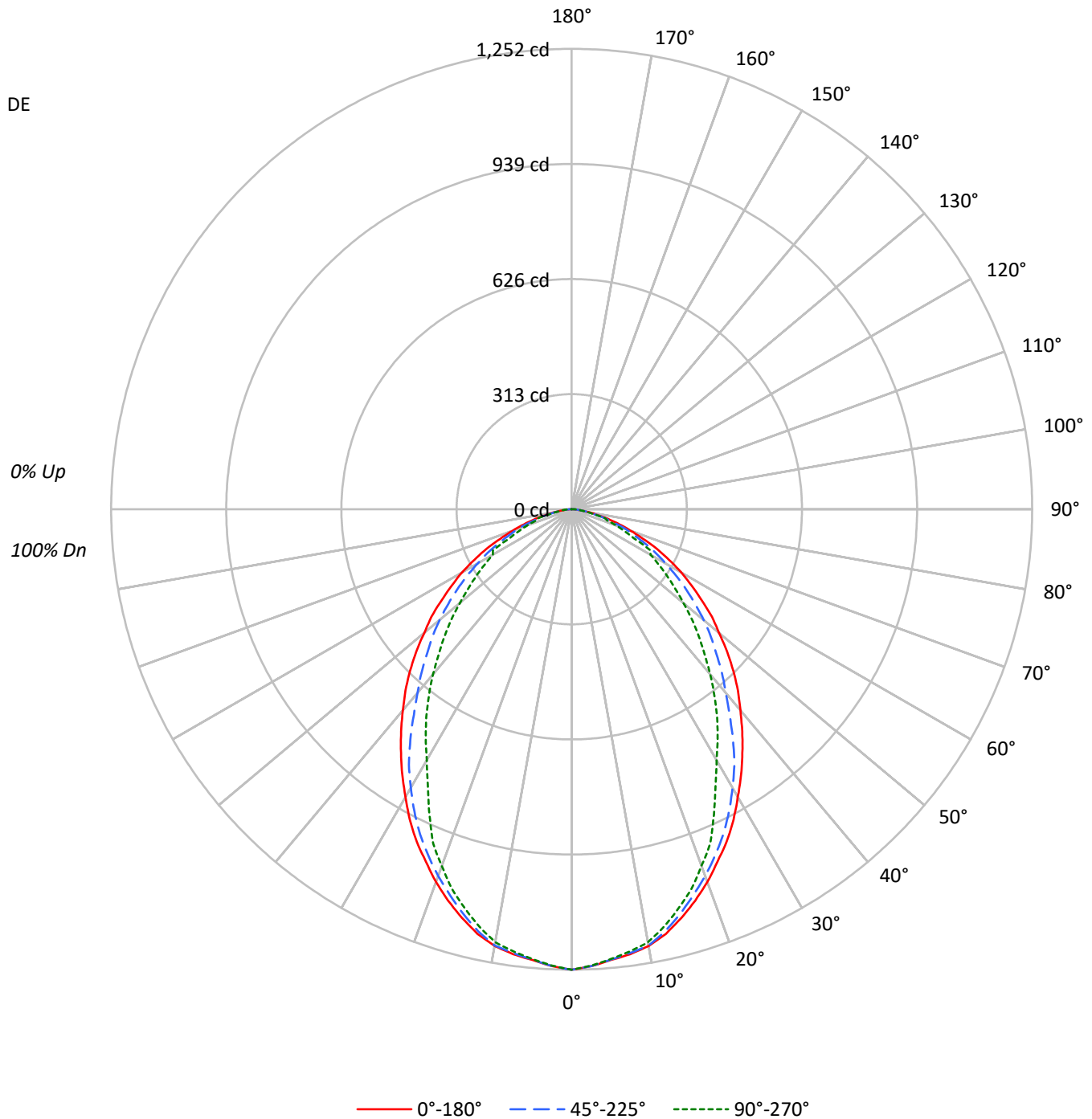
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561238

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-87-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561238

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-87-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°	3369	3369	3369
5°	3324	3320	3316
10°	3295	3291	3267
15°	3206	3174	3129
20°	3088	3038	2956
25°	2961	2897	2716
30°	2806	2717	2447
35°	2658	2511	2263
40°	2507	2288	2059
45°	2363	2115	1862
50°	2187	1963	1660
55°	2023	1779	1487
60°	1854	1589	1332
65°	1631	1392	1180
70°	1344	1219	1002
75°	1069	933	978
80°	717	673	628
85°	448	537	627

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2363 cd/sqm



TEST NUMBER: P561238

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-87-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.6	4.7
10°-20°	319.9	13.0
20°-30°	442.8	18.0
30°-40°	472.2	19.2
40°-50°	430.8	17.5
50°-60°	337.5	13.7
60°-70°	220.0	8.9
70°-80°	97.4	4.0
80°-90°	20.9	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°	879.2	35.8
0°-40°	1351.4	55.0
0°-60°	2119.7	86.2
0°-90°	2458.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2458.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1230	1229	1229	1228	1228	117
15°	1151	1151	1139	1128	1123	324
25°	997	992	976	941	915	458
35°	809	803	764	706	689	506
45°	621	608	556	510	489	478
55°	431	418	379	334	317	387
65°	256	242	219	223	185	252
75°	103	96	90	85	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



TEST NUMBER: P561238

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-87-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1243.4	1243.4	1243.4	1241.9	1241.9
5°	1230.4	1228.9	1228.9	1227.5	1227.5
7.5°	1220.2	1218.8	1217.3	1215.9	1213.0
10°	1205.8	1205.8	1204.3	1197.1	1195.6
12.5°	1182.6	1181.1	1175.4	1165.2	1162.3
15°	1150.7	1150.7	1139.2	1127.6	1123.2
17.5°	1116.0	1114.6	1100.1	1088.5	1082.7
20°	1078.4	1075.5	1061.0	1042.2	1032.1
22.5°	1036.4	1036.4	1019.0	994.4	984.3
25°	997.3	991.5	975.6	940.9	914.8
27.5°	952.4	943.8	926.4	877.2	846.8
30°	903.2	898.9	874.3	810.6	787.4
32.5°	856.9	849.7	823.6	757.0	738.2
35°	809.1	803.4	764.3	706.4	689.0
37.5°	761.4	754.1	704.9	658.6	636.9
40°	713.6	704.9	651.4	609.4	586.2
42.5°	668.7	657.2	605.0	560.2	534.1
45°	621.0	607.9	555.8	509.5	489.2
47.5°	573.2	561.6	513.9	466.1	442.9
50°	522.5	512.4	469.0	421.2	396.6
52.5°	480.6	464.6	422.7	374.9	354.6
55°	431.3	418.3	379.2	334.4	317.0
57.5°	386.5	373.5	337.3	295.3	280.8
60°	344.5	325.7	295.3	259.1	247.5
62.5°	298.2	283.7	257.7	227.3	241.7
65°	256.2	241.7	218.6	222.9	185.3
67.5°	209.9	202.6	182.4	162.1	156.3
70°	170.8	162.1	154.9	133.2	127.4
72.5°	136.1	127.4	117.2	105.7	101.3
75°	102.8	95.5	89.7	85.4	94.1
77.5°	70.9	68.0	63.7	59.3	57.9
80°	46.3	44.9	43.4	42.0	40.5
82.5°	27.5	27.5	27.5	27.5	27.5
85°	14.5	15.9	17.4	18.8	20.3
87.5°	8.7	8.7	10.1	11.6	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)