

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: P561234

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561234
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-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2569.0 lumens
Efficiency: N/A
Efficacy: 77.1 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

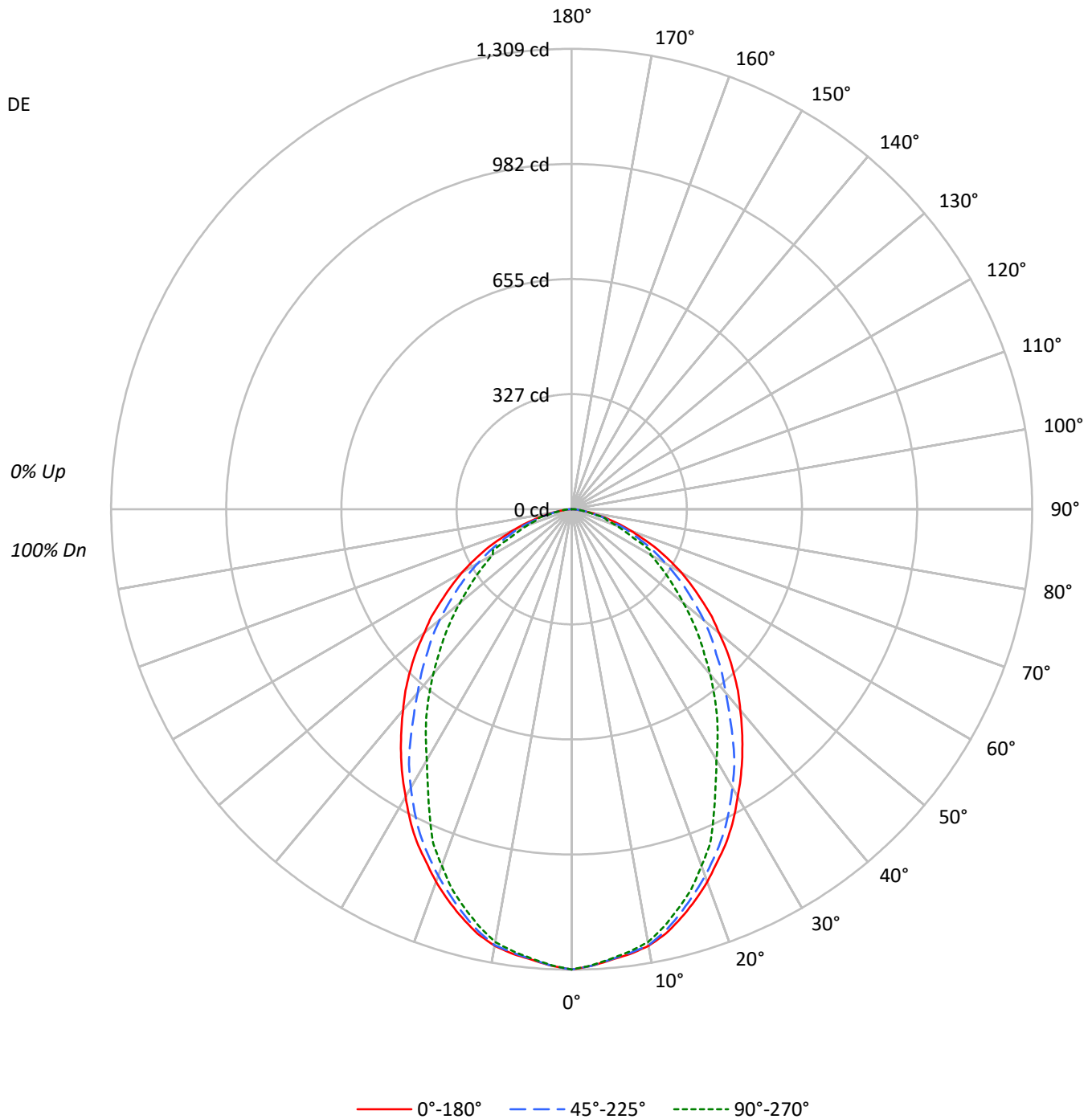
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3521	3521	3521
5°	3474	3469	3465
10°	3443	3439	3415
15°	3351	3317	3271
20°	3228	3176	3089
25°	3095	3028	2839
30°	2933	2839	2557
35°	2778	2624	2366
40°	2620	2392	2152
45°	2470	2211	1946
50°	2286	2052	1735
55°	2115	1860	1554
60°	1938	1661	1392
65°	1705	1454	1233
70°	1404	1274	1047
75°	1117	975	1022
80°	750	704	657
85°	466	562	655

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2470 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.8	4.7
10°-20°	334.3	13.0
20°-30°	462.8	18.0
30°-40°	493.5	19.2
40°-50°	450.2	17.5
50°-60°	352.7	13.7
60°-70°	229.9	8.9
70°-80°	101.8	4.0
80°-90°	21.9	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°	919.0	35.8
0°-40°	1412.5	55.0
0°-60°	2215.4	86.2
0°-90°	2569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1309	1309	1309	1309	1309	
5°	1286	1284	1284	1283	1283	122
15°	1203	1203	1191	1178	1174	338
25°	1042	1036	1020	983	956	479
35°	846	840	799	738	720	529
45°	649	635	581	532	511	500
55°	451	437	396	350	331	404
65°	268	253	228	233	194	264
75°	107	100	94	89	98	115
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°	1308.6	1308.6	1308.6	1308.6	1308.6
2.5°	1299.5	1299.5	1299.5	1298.0	1298.0
5°	1285.9	1284.4	1284.4	1282.9	1282.9
7.5°	1275.3	1273.8	1272.3	1270.8	1267.8
10°	1260.2	1260.2	1258.7	1251.1	1249.6
12.5°	1236.0	1234.5	1228.4	1217.8	1214.8
15°	1202.7	1202.7	1190.6	1178.5	1174.0
17.5°	1166.4	1164.9	1149.8	1137.7	1131.6
20°	1127.1	1124.0	1108.9	1089.3	1078.7
22.5°	1083.2	1083.2	1065.0	1039.3	1028.7
25°	1042.4	1036.3	1019.7	983.4	956.1
27.5°	995.5	986.4	968.2	916.8	885.0
30°	944.0	939.5	913.8	847.2	823.0
32.5°	895.6	888.0	860.8	791.2	771.6
35°	845.7	839.6	798.8	738.3	720.1
37.5°	795.8	788.2	736.8	688.3	665.7
40°	745.8	736.8	680.8	636.9	612.7
42.5°	698.9	686.8	632.4	585.5	558.2
45°	649.0	635.4	580.9	532.5	511.3
47.5°	599.1	587.0	537.1	487.1	462.9
50°	546.1	535.5	490.2	440.2	414.5
52.5°	502.3	485.6	441.8	391.8	370.6
55°	450.8	437.2	396.4	349.5	331.3
57.5°	403.9	390.3	352.5	308.6	293.5
60°	360.1	340.4	308.6	270.8	258.7
62.5°	311.6	296.5	269.3	237.5	252.6
65°	267.8	252.6	228.4	233.0	193.6
67.5°	219.4	211.8	190.6	169.4	163.4
70°	178.5	169.4	161.9	139.2	133.1
72.5°	142.2	133.1	122.5	110.4	105.9
75°	107.4	99.8	93.8	89.3	98.3
77.5°	74.1	71.1	66.6	62.0	60.5
80°	48.4	46.9	45.4	43.9	42.4
82.5°	28.7	28.7	28.7	28.7	28.7
85°	15.1	16.6	18.2	19.7	21.2
87.5°	9.1	9.1	10.6	12.1	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)