

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: P561198

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561198
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-35-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2661.0 lumens
Efficiency: N/A
Efficacy: 79.9 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

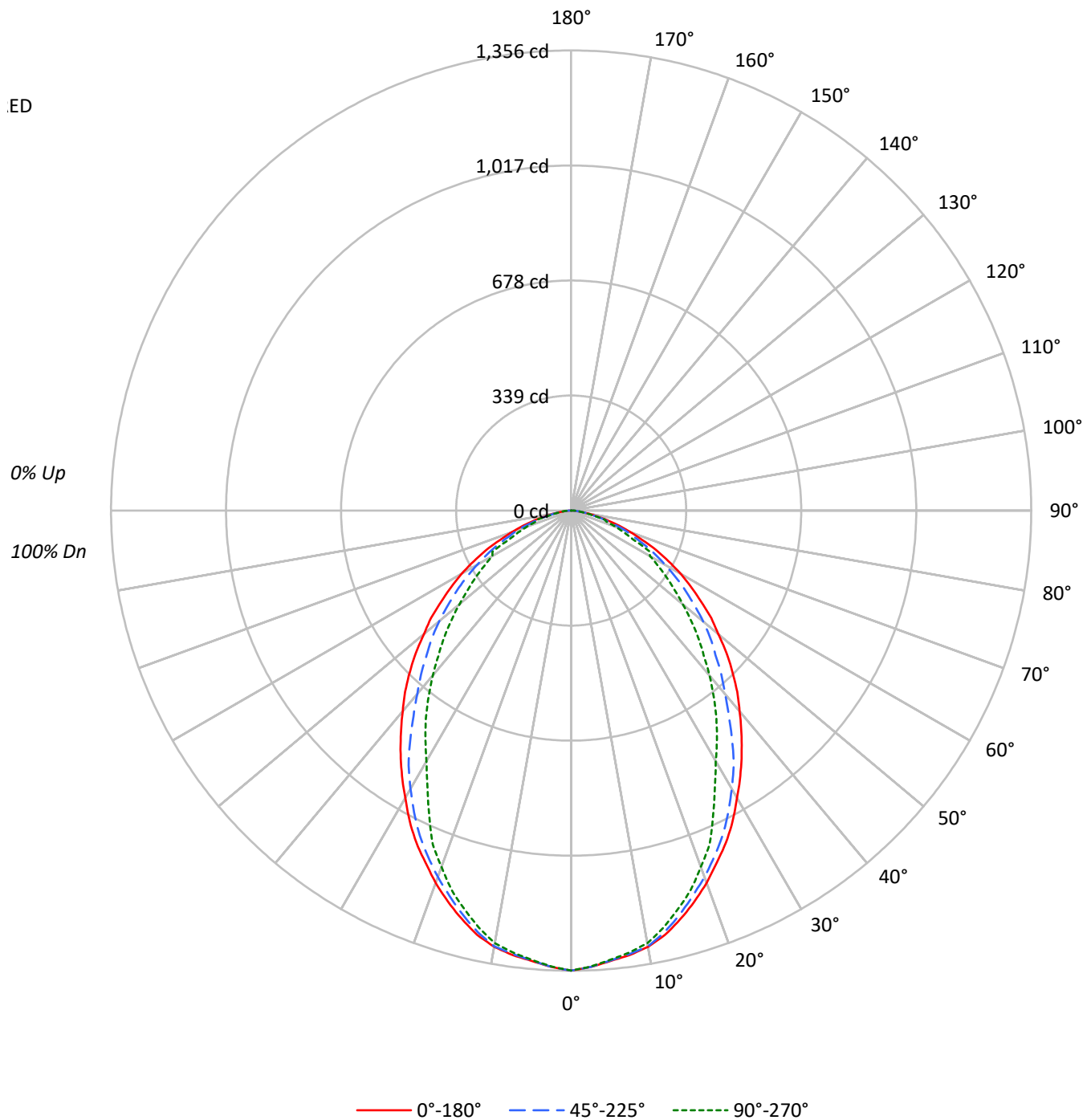
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3648	3648	3648
5°	3598	3594	3589
10°	3567	3563	3537
15°	3471	3436	3388
20°	3343	3289	3200
25°	3206	3136	2941
30°	3038	2941	2649
35°	2878	2718	2450
40°	2714	2477	2229
45°	2559	2290	2016
50°	2368	2125	1798
55°	2191	1926	1610
60°	2007	1721	1442
65°	1766	1507	1277
70°	1455	1319	1085
75°	1157	1011	1059
80°	776	728	680
85°	485	580	676

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2559 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	4.7
10°-20°	346.3	13.0
20°-30°	479.4	18.0
30°-40°	511.2	19.2
40°-50°	466.3	17.5
50°-60°	365.4	13.7
60°-70°	238.1	8.9
70°-80°	105.5	4.0
80°-90°	22.7	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°	951.9	35.8
0°-40°	1463.0	55.0
0°-60°	2294.7	86.2
0°-90°	2661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2661.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1356	1356	1356	1356	1356	
5°	1332	1330	1330	1329	1329	126
15°	1246	1246	1233	1221	1216	350
25°	1080	1073	1056	1019	990	496
35°	876	870	827	765	746	548
45°	672	658	602	552	530	518
55°	467	453	411	362	343	419
65°	277	262	237	241	201	273
75°	111	103	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1355.5	1355.5	1355.5	1355.5	1355.5
2.5°	1346.1	1346.1	1346.1	1344.5	1344.5
5°	1332.0	1330.4	1330.4	1328.8	1328.8
7.5°	1321.0	1319.4	1317.9	1316.3	1313.2
10°	1305.3	1305.3	1303.8	1295.9	1294.4
12.5°	1280.3	1278.7	1272.4	1261.5	1258.3
15°	1245.8	1245.8	1233.2	1220.7	1216.0
17.5°	1208.2	1206.6	1190.9	1178.4	1172.1
20°	1167.4	1164.3	1148.6	1128.3	1117.3
22.5°	1122.0	1122.0	1103.2	1076.5	1065.6
25°	1079.7	1073.4	1056.2	1018.6	990.4
27.5°	1031.1	1021.7	1002.9	949.6	916.7
30°	977.8	973.1	946.5	877.5	852.5
32.5°	927.7	919.8	891.6	819.6	799.2
35°	876.0	869.7	827.4	764.7	745.9
37.5°	824.3	816.4	763.1	713.0	689.5
40°	772.5	763.1	705.2	659.7	634.6
42.5°	724.0	711.4	655.0	606.4	578.2
45°	672.3	658.2	601.7	551.6	529.7
47.5°	620.5	608.0	556.3	504.6	479.5
50°	565.7	554.7	507.7	456.0	429.4
52.5°	520.3	503.0	457.6	405.9	383.9
55°	467.0	452.9	410.6	362.0	343.2
57.5°	418.4	404.3	365.1	319.7	304.0
60°	373.0	352.6	319.7	280.5	268.0
62.5°	322.8	307.1	278.9	246.0	261.7
65°	277.4	261.7	236.6	241.3	200.6
67.5°	227.2	219.4	197.4	175.5	169.2
70°	184.9	175.5	167.7	144.2	137.9
72.5°	147.3	137.9	126.9	114.4	109.7
75°	111.3	103.4	97.2	92.5	101.9
77.5°	76.8	73.7	68.9	64.2	62.7
80°	50.1	48.6	47.0	45.4	43.9
82.5°	29.8	29.8	29.8	29.8	29.8
85°	15.7	17.2	18.8	20.4	21.9
87.5°	9.4	9.4	11.0	12.5	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)