

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: P561324

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561324
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-50-UNV-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2948.0 lumens
Efficiency: N/A
Efficacy: 88.5 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

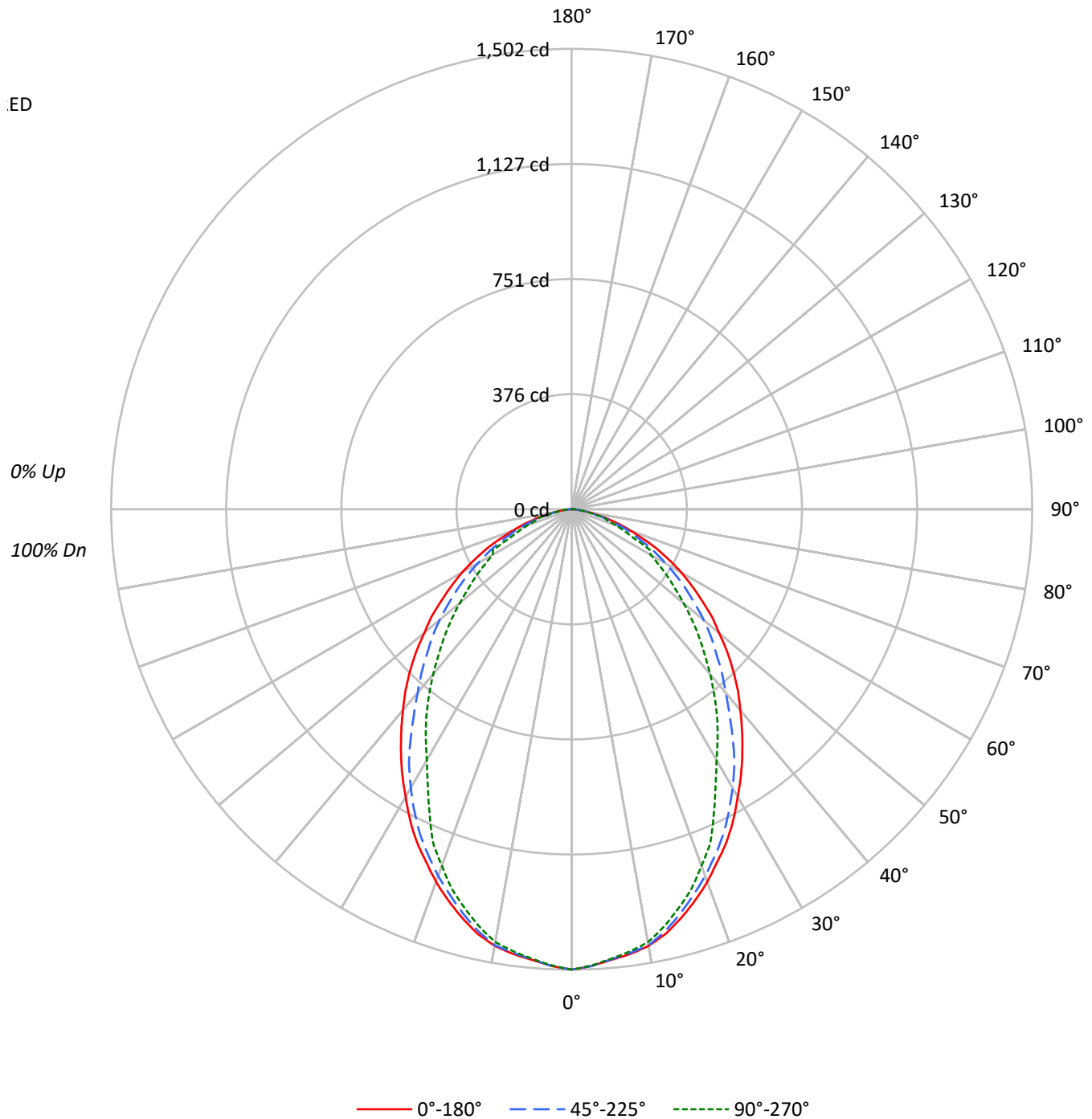
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4041	4041	4041
5°	3986	3981	3977
10°	3951	3947	3918
15°	3845	3806	3753
20°	3704	3644	3545
25°	3551	3474	3258
30°	3366	3258	2935
35°	3188	3011	2715
40°	3007	2744	2470
45°	2834	2537	2233
50°	2624	2355	1991
55°	2427	2134	1784
60°	2224	1906	1598
65°	1957	1669	1415
70°	1612	1462	1202
75°	1282	1119	1173
80°	862	807	753
85°	537	642	750

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2834 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.8	4.7
10°-20°	383.6	13.0
20°-30°	531.1	18.0
30°-40°	566.3	19.2
40°-50°	516.6	17.5
50°-60°	404.8	13.7
60°-70°	263.8	8.9
70°-80°	116.9	4.0
80°-90°	25.1	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°	1054.5	35.8
0°-40°	1620.8	55.0
0°-60°	2542.2	86.2
0°-90°	2948.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1502	1502	1502	1502	1502	
5°	1476	1474	1474	1472	1472	140
15°	1380	1380	1366	1352	1347	388
25°	1196	1189	1170	1128	1097	549
35°	970	964	917	847	826	607
45°	745	729	667	611	587	574
55°	517	502	455	401	380	464
65°	307	290	262	267	222	303
75°	123	115	108	102	113	132
85°	17	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1501.7	1501.7	1501.7	1501.7	1501.7
2.5°	1491.3	1491.3	1491.3	1489.5	1489.5
5°	1475.6	1473.9	1473.9	1472.2	1472.2
7.5°	1463.5	1461.7	1460.0	1458.3	1454.8
10°	1446.1	1446.1	1444.4	1435.7	1434.0
12.5°	1418.3	1416.6	1409.7	1397.5	1394.0
15°	1380.1	1380.1	1366.3	1352.4	1347.2
17.5°	1338.5	1336.7	1319.4	1305.5	1298.6
20°	1293.3	1289.9	1272.5	1249.9	1237.8
22.5°	1243.0	1243.0	1222.2	1192.7	1180.5
25°	1196.1	1189.2	1170.1	1128.4	1097.2
27.5°	1142.3	1131.9	1111.1	1052.0	1015.6
30°	1083.3	1078.1	1048.6	972.2	944.4
32.5°	1027.7	1019.1	987.8	907.9	885.4
35°	970.4	963.5	916.6	847.2	826.4
37.5°	913.2	904.5	845.4	789.9	763.9
40°	855.9	845.4	781.2	730.9	703.1
42.5°	802.0	788.2	725.7	671.8	640.6
45°	744.8	729.1	666.6	611.1	586.8
47.5°	687.5	673.6	616.3	559.0	531.2
50°	626.7	614.6	562.5	505.2	475.7
52.5°	576.4	557.3	506.9	449.6	425.3
55°	517.3	501.7	454.8	401.0	380.2
57.5°	463.5	447.9	404.5	354.2	336.8
60°	413.2	390.6	354.2	310.8	296.9
62.5°	357.6	340.3	309.0	272.6	289.9
65°	307.3	289.9	262.1	267.3	222.2
67.5°	251.7	243.0	218.7	194.4	187.5
70°	204.9	194.4	185.8	159.7	152.8
72.5°	163.2	152.8	140.6	126.7	121.5
75°	123.3	114.6	107.6	102.4	112.8
77.5°	85.1	81.6	76.4	71.2	69.4
80°	55.6	53.8	52.1	50.3	48.6
82.5°	33.0	33.0	33.0	33.0	33.0
85°	17.4	19.1	20.8	22.6	24.3
87.5°	10.4	10.4	12.2	13.9	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)