

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: P561219

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561219
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-81-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3124.0 lumens
Efficiency: N/A
Efficacy: 93.8 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

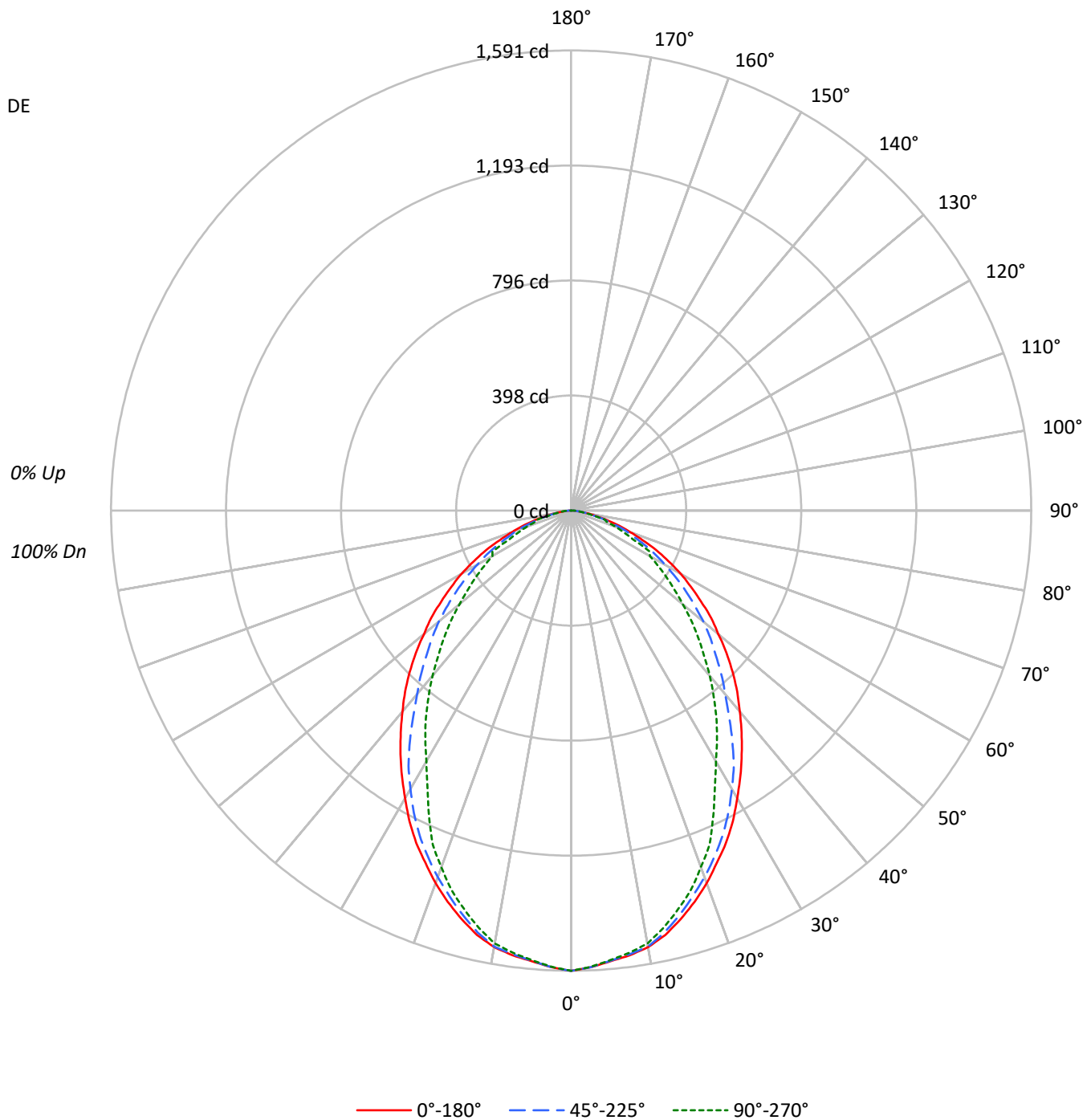
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4282	4282	4282
5°	4224	4219	4214
10°	4188	4182	4152
15°	4074	4033	3977
20°	3925	3862	3756
25°	3763	3681	3452
30°	3567	3453	3110
35°	3378	3191	2877
40°	3186	2908	2617
45°	3003	2688	2366
50°	2780	2496	2110
55°	2572	2261	1890
60°	2356	2020	1693
65°	2073	1769	1500
70°	1708	1548	1274
75°	1358	1186	1243
80°	913	855	798
85°	568	682	797

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3003 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.1	4.7
10°-20°	406.5	13.0
20°-30°	562.8	18.0
30°-40°	600.1	19.2
40°-50°	547.5	17.5
50°-60°	428.9	13.7
60°-70°	279.5	8.9
70°-80°	123.8	4.0
80°-90°	26.6	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°	1117.5	35.8
0°-40°	1717.6	55.0
0°-60°	2694.0	86.2
0°-90°	3124.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3124.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1591	1591	1591	1591	1591	
5°	1564	1562	1562	1560	1560	148
15°	1462	1462	1448	1433	1428	411
25°	1268	1260	1240	1196	1163	582
35°	1028	1021	971	898	876	643
45°	789	773	706	648	622	608
55°	548	532	482	425	403	492
65°	326	307	278	283	236	321
75°	131	121	114	108	120	140
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1591.3	1591.3	1591.3	1591.3	1591.3
2.5°	1580.3	1580.3	1580.3	1578.4	1578.4
5°	1563.7	1561.9	1561.9	1560.0	1560.0
7.5°	1550.9	1549.0	1547.2	1545.3	1541.7
10°	1532.5	1532.5	1530.6	1521.4	1519.6
12.5°	1503.0	1501.2	1493.8	1480.9	1477.3
15°	1462.5	1462.5	1447.8	1433.1	1427.6
17.5°	1418.4	1416.6	1398.2	1383.4	1376.1
20°	1370.6	1366.9	1348.5	1324.6	1311.7
22.5°	1317.2	1317.2	1295.1	1263.9	1251.0
25°	1267.5	1260.2	1239.9	1195.8	1162.7
27.5°	1210.5	1199.5	1177.4	1114.8	1076.2
30°	1148.0	1142.4	1111.2	1030.2	1000.8
32.5°	1089.1	1079.9	1046.8	962.2	938.2
35°	1028.4	1021.0	971.4	897.8	875.7
37.5°	967.7	958.5	895.9	837.1	809.5
40°	907.0	895.9	827.9	774.5	745.1
42.5°	849.9	835.2	769.0	712.0	678.8
45°	789.2	772.7	706.4	647.6	621.8
47.5°	728.5	713.8	653.1	592.4	562.9
50°	664.1	651.2	596.1	535.3	504.1
52.5°	610.8	590.5	537.2	476.5	450.7
55°	548.2	531.7	482.0	425.0	402.9
57.5°	491.2	474.6	428.6	375.3	356.9
60°	437.8	413.9	375.3	329.3	314.6
62.5°	379.0	360.6	327.5	288.8	307.2
65°	325.6	307.2	277.8	283.3	235.5
67.5°	266.8	257.6	231.8	206.0	198.7
70°	217.1	206.0	196.8	169.3	161.9
72.5°	172.9	161.9	149.0	134.3	128.8
75°	130.6	121.4	114.1	108.5	119.6
77.5°	90.1	86.5	80.9	75.4	73.6
80°	58.9	57.0	55.2	53.4	51.5
82.5°	35.0	35.0	35.0	35.0	35.0
85°	18.4	20.2	22.1	23.9	25.8
87.5°	11.0	11.0	12.9	14.7	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)