

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: P561326

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561326
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-93-97-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2842.0 lumens
Efficiency: N/A
Efficacy: 85.3 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

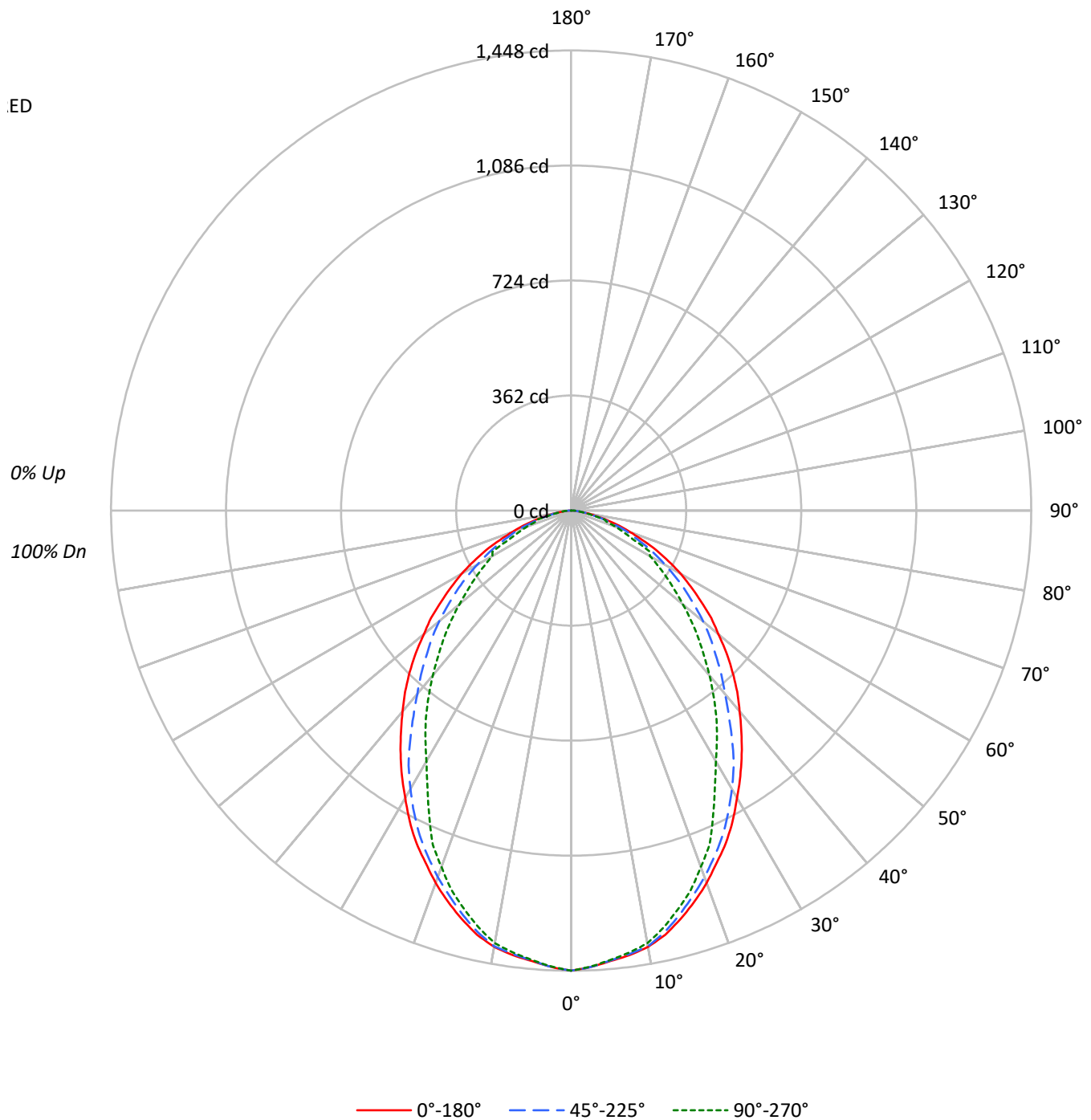
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3896	3896	3896
5°	3843	3838	3834
10°	3809	3805	3777
15°	3707	3669	3618
20°	3570	3513	3417
25°	3424	3349	3140
30°	3245	3141	2829
35°	3074	2903	2617
40°	2898	2646	2381
45°	2732	2446	2153
50°	2529	2270	1920
55°	2340	2057	1719
60°	2144	1837	1540
65°	1886	1609	1364
70°	1554	1409	1159
75°	1235	1079	1131
80°	831	778	727
85°	516	621	722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2732 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.8	4.7
10°-20°	369.8	13.0
20°-30°	512.0	18.0
30°-40°	546.0	19.2
40°-50°	498.1	17.5
50°-60°	390.2	13.7
60°-70°	254.3	8.9
70°-80°	112.7	4.0
80°-90°	24.2	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°	1016.6	35.8
0°-40°	1562.6	55.0
0°-60°	2450.8	86.2
0°-90°	2842.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2842.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1423	1421	1421	1419	1419	135
15°	1330	1330	1317	1304	1299	374
25°	1153	1146	1128	1088	1058	529
35°	936	929	884	817	797	585
45°	718	703	643	589	566	553
55°	499	484	438	387	366	447
65°	296	280	253	258	214	292
75°	119	110	104	99	109	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1447.7	1447.7	1447.7	1447.7	1447.7
2.5°	1437.6	1437.6	1437.6	1436.0	1436.0
5°	1422.6	1420.9	1420.9	1419.2	1419.2
7.5°	1410.9	1409.2	1407.5	1405.8	1402.5
10°	1394.1	1394.1	1392.4	1384.1	1382.4
12.5°	1367.3	1365.7	1359.0	1347.3	1343.9
15°	1330.5	1330.5	1317.1	1303.7	1298.7
17.5°	1290.4	1288.7	1271.9	1258.6	1251.9
20°	1246.8	1243.5	1226.8	1205.0	1193.3
22.5°	1198.3	1198.3	1178.2	1149.8	1138.1
25°	1153.1	1146.4	1128.0	1087.8	1057.7
27.5°	1101.2	1091.2	1071.1	1014.2	979.1
30°	1044.3	1039.3	1010.9	937.2	910.4
32.5°	990.8	982.4	952.3	875.3	853.5
35°	935.6	928.9	883.7	816.7	796.6
37.5°	880.3	872.0	815.1	761.5	736.4
40°	825.1	815.1	753.1	704.6	677.8
42.5°	773.2	759.8	699.6	647.7	617.6
45°	718.0	702.9	642.7	589.1	565.7
47.5°	662.8	649.4	594.1	538.9	512.1
50°	604.2	592.5	542.3	487.0	458.6
52.5°	555.6	537.2	488.7	433.5	410.0
55°	498.7	483.7	438.5	386.6	366.5
57.5°	446.9	431.8	390.0	341.4	324.7
60°	398.3	376.6	341.4	299.6	286.2
62.5°	344.8	328.0	297.9	262.8	279.5
65°	296.2	279.5	252.7	257.7	214.2
67.5°	242.7	234.3	210.9	187.4	180.8
70°	197.5	187.4	179.1	154.0	147.3
72.5°	157.3	147.3	135.6	122.2	117.2
75°	118.8	110.5	103.8	98.7	108.8
77.5°	82.0	78.7	73.6	68.6	66.9
80°	53.6	51.9	50.2	48.5	46.9
82.5°	31.8	31.8	31.8	31.8	31.8
85°	16.7	18.4	20.1	21.8	23.4
87.5°	10.0	10.0	11.7	13.4	15.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)