

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: P561280

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561280
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-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2820.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

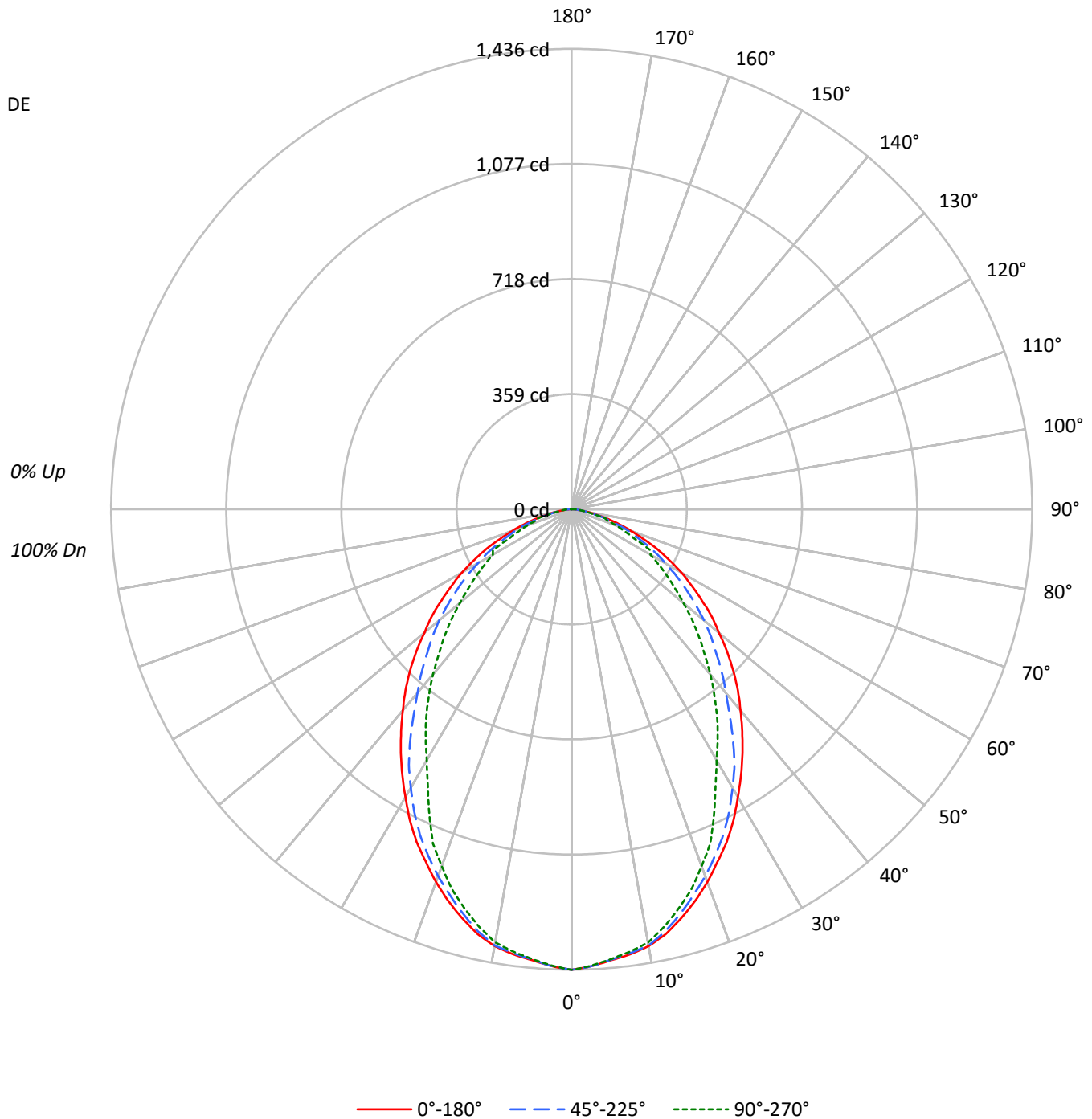
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3866	3866	3866
5°	3813	3809	3804
10°	3780	3775	3748
15°	3678	3641	3590
20°	3543	3486	3391
25°	3397	3323	3116
30°	3220	3117	2807
35°	3050	2880	2597
40°	2876	2625	2363
45°	2711	2427	2136
50°	2510	2253	1905
55°	2322	2041	1706
60°	2127	1823	1528
65°	1871	1597	1354
70°	1542	1398	1149
75°	1226	1071	1122
80°	823	772	721
85°	513	614	716

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2711 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.7	4.7
10°-20°	367.0	13.0
20°-30°	508.0	18.0
30°-40°	541.7	19.2
40°-50°	494.2	17.5
50°-60°	387.2	13.7
60°-70°	252.3	8.9
70°-80°	111.8	4.0
80°-90°	24.0	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°	1008.7	35.8
0°-40°	1550.5	55.0
0°-60°	2431.9	86.2
0°-90°	2820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2820.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1436	1436	1436	1436	1436	
5°	1412	1410	1410	1408	1408	134
15°	1320	1320	1307	1294	1289	371
25°	1144	1138	1119	1079	1050	525
35°	928	922	877	810	790	580
45°	712	698	638	585	561	549
55°	495	480	435	384	364	444
65°	294	277	251	256	213	290
75°	118	110	103	98	108	126
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°	1436.5	1436.5	1436.5	1436.5	1436.5
2.5°	1426.5	1426.5	1426.5	1424.8	1424.8
5°	1411.6	1409.9	1409.9	1408.2	1408.2
7.5°	1399.9	1398.3	1396.6	1395.0	1391.6
10°	1383.3	1383.3	1381.7	1373.4	1371.7
12.5°	1356.8	1355.1	1348.5	1336.8	1333.5
15°	1320.2	1320.2	1306.9	1293.7	1288.7
17.5°	1280.4	1278.7	1262.1	1248.8	1242.2
20°	1237.2	1233.9	1217.3	1195.7	1184.1
22.5°	1189.0	1189.0	1169.1	1140.9	1129.2
25°	1144.2	1137.6	1119.3	1079.4	1049.5
27.5°	1092.7	1082.7	1062.8	1006.4	971.5
30°	1036.3	1031.3	1003.0	930.0	903.4
32.5°	983.1	974.8	944.9	868.5	846.9
35°	928.3	921.7	876.8	810.4	790.5
37.5°	873.5	865.2	808.7	755.6	730.7
40°	818.7	808.7	747.3	699.1	672.6
42.5°	767.2	753.9	694.2	642.7	612.8
45°	712.4	697.5	637.7	584.6	561.3
47.5°	657.6	644.3	589.5	534.7	508.2
50°	599.5	587.9	538.1	483.3	455.0
52.5°	551.3	533.1	484.9	430.1	406.9
55°	494.9	479.9	435.1	383.6	363.7
57.5°	443.4	428.5	386.9	338.8	322.2
60°	395.2	373.6	338.8	297.3	284.0
62.5°	342.1	325.5	295.6	260.7	277.3
65°	293.9	277.3	250.8	255.7	212.6
67.5°	240.8	232.5	209.2	186.0	179.4
70°	196.0	186.0	177.7	152.8	146.1
72.5°	156.1	146.1	134.5	121.2	116.2
75°	117.9	109.6	103.0	98.0	107.9
77.5°	81.4	78.1	73.1	68.1	66.4
80°	53.1	51.5	49.8	48.2	46.5
82.5°	31.6	31.6	31.6	31.6	31.6
85°	16.6	18.3	19.9	21.6	23.2
87.5°	10.0	10.0	11.6	13.3	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)