

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: P590409

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-82-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590409
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2STD-50-UNV-82-88-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3148.0 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

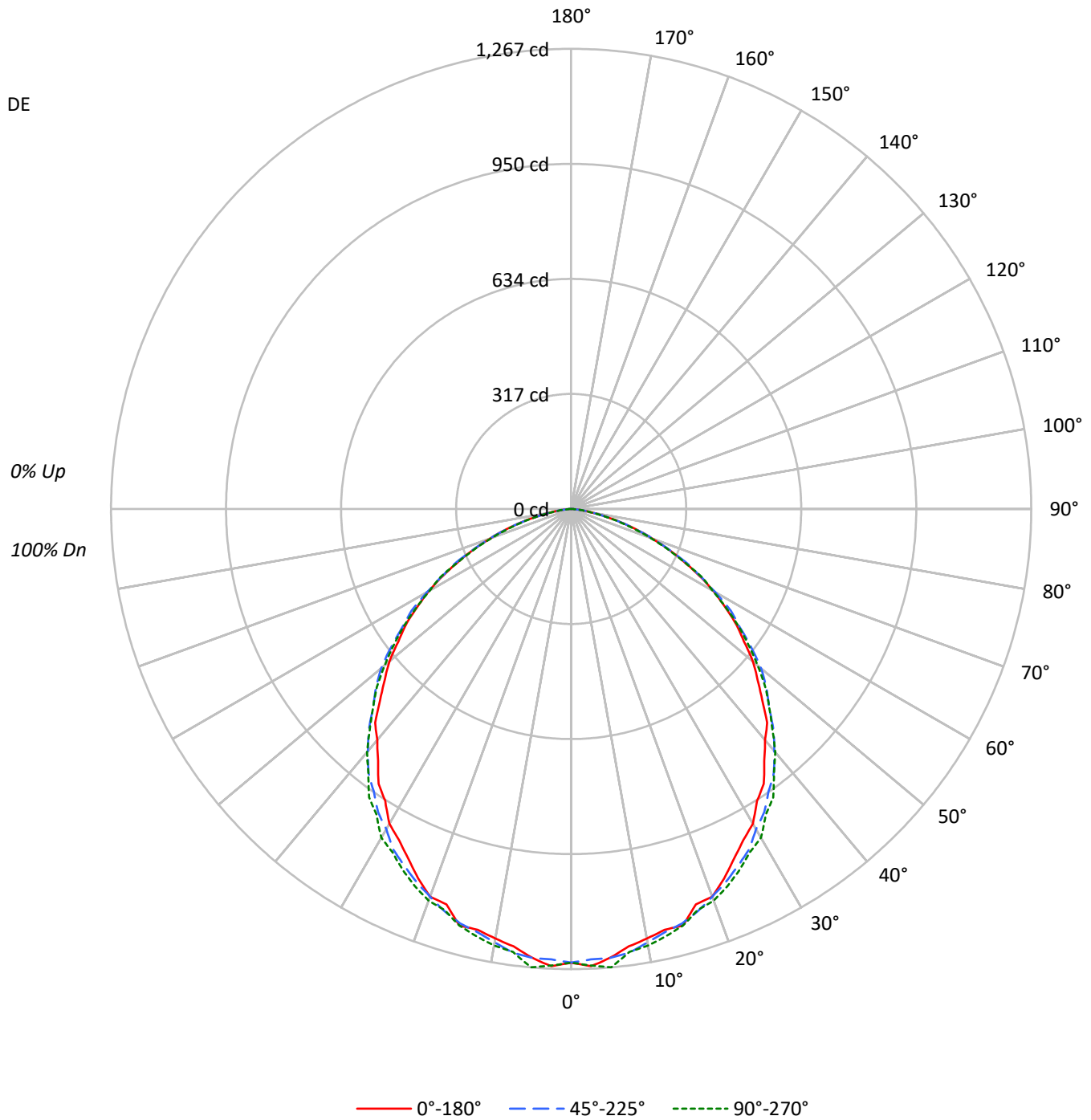
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3361	3361	3361
5°	3350	3351	3422
10°	3282	3311	3334
15°	3308	3290	3309
20°	3252	3252	3287
25°	3152	3221	3257
30°	3109	3164	3248
35°	3036	3115	3185
40°	2917	3058	3072
45°	2829	2930	2934
50°	2736	2860	2805
55°	2607	2658	2639
60°	2438	2462	2418
65°	2174	2229	2159
70°	1865	1872	1820
75°	1477	1474	1417
80°	990	962	925
85°	537	534	497

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 3005 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.5	3.7
10°-20°	333.0	10.6
20°-30°	498.9	15.8
30°-40°	591.3	18.8
40°-50°	592.4	18.8
50°-60°	502.8	16.0
60°-70°	339.0	10.8
70°-80°	149.0	4.7
80°-90°	24.2	0.8
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°	949.4	30.2
0°-40°	1540.6	48.9
0°-60°	2635.8	83.7
0°-90°	3148.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1249	1249	1249	1249	1249	
5°	1240	1237	1241	1237	1267	117
15°	1187	1174	1181	1187	1188	331
25°	1062	1068	1085	1099	1097	491
35°	924	927	948	970	970	574
45°	744	757	770	790	771	575
55°	556	552	566	563	562	494
65°	341	337	350	337	339	340
75°	142	139	142	132	136	152
85°	17	17	17	17	16	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1249.0	1249.0	1249.0	1249.0	1249.0
2.5°	1259.9	1250.3	1241.5	1251.8	1258.1
5°	1240.2	1237.3	1240.7	1237.0	1266.8
7.5°	1214.7	1225.8	1232.3	1228.2	1230.0
10°	1201.1	1197.3	1211.6	1221.6	1220.2
12.5°	1186.6	1192.4	1193.2	1204.1	1205.0
15°	1187.4	1173.7	1181.0	1187.1	1187.6
17.5°	1141.3	1156.2	1161.2	1175.2	1157.8
20°	1135.7	1124.9	1135.7	1150.0	1147.8
22.5°	1101.0	1088.9	1112.1	1124.9	1124.1
25°	1061.6	1067.5	1084.9	1099.1	1096.8
27.5°	1027.1	1033.9	1058.7	1078.3	1065.7
30°	1000.5	997.1	1018.1	1035.5	1045.2
32.5°	953.0	965.2	989.7	1007.0	997.8
35°	924.1	926.8	948.3	970.2	969.6
37.5°	873.6	886.3	916.5	922.6	917.0
40°	830.5	843.3	870.5	877.2	874.4
42.5°	798.8	801.0	824.4	832.0	819.9
45°	743.5	757.3	769.9	789.7	771.0
47.5°	696.4	702.8	729.9	735.2	725.4
50°	653.6	655.9	683.1	676.5	670.1
52.5°	599.9	609.4	624.8	623.5	615.9
55°	555.7	552.0	566.5	562.7	562.5
57.5°	502.7	509.1	521.1	514.9	505.1
60°	453.0	453.2	457.5	450.6	449.3
62.5°	397.7	399.6	400.6	392.1	405.9
65°	341.4	336.9	350.1	336.7	339.0
67.5°	289.6	291.9	290.6	282.2	285.5
70°	237.1	240.0	237.9	228.4	231.3
72.5°	189.0	185.5	187.7	175.8	181.3
75°	142.1	139.2	141.8	131.8	136.3
77.5°	96.8	99.0	97.4	92.1	95.2
80°	63.9	62.1	62.1	59.0	59.7
82.5°	37.3	35.5	35.0	34.0	35.5
85°	17.4	16.9	17.3	16.8	16.1
87.5°	6.3	6.5	6.5	6.1	5.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)