

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: P561025

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561025
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-LD4-1LO-40-UNV-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

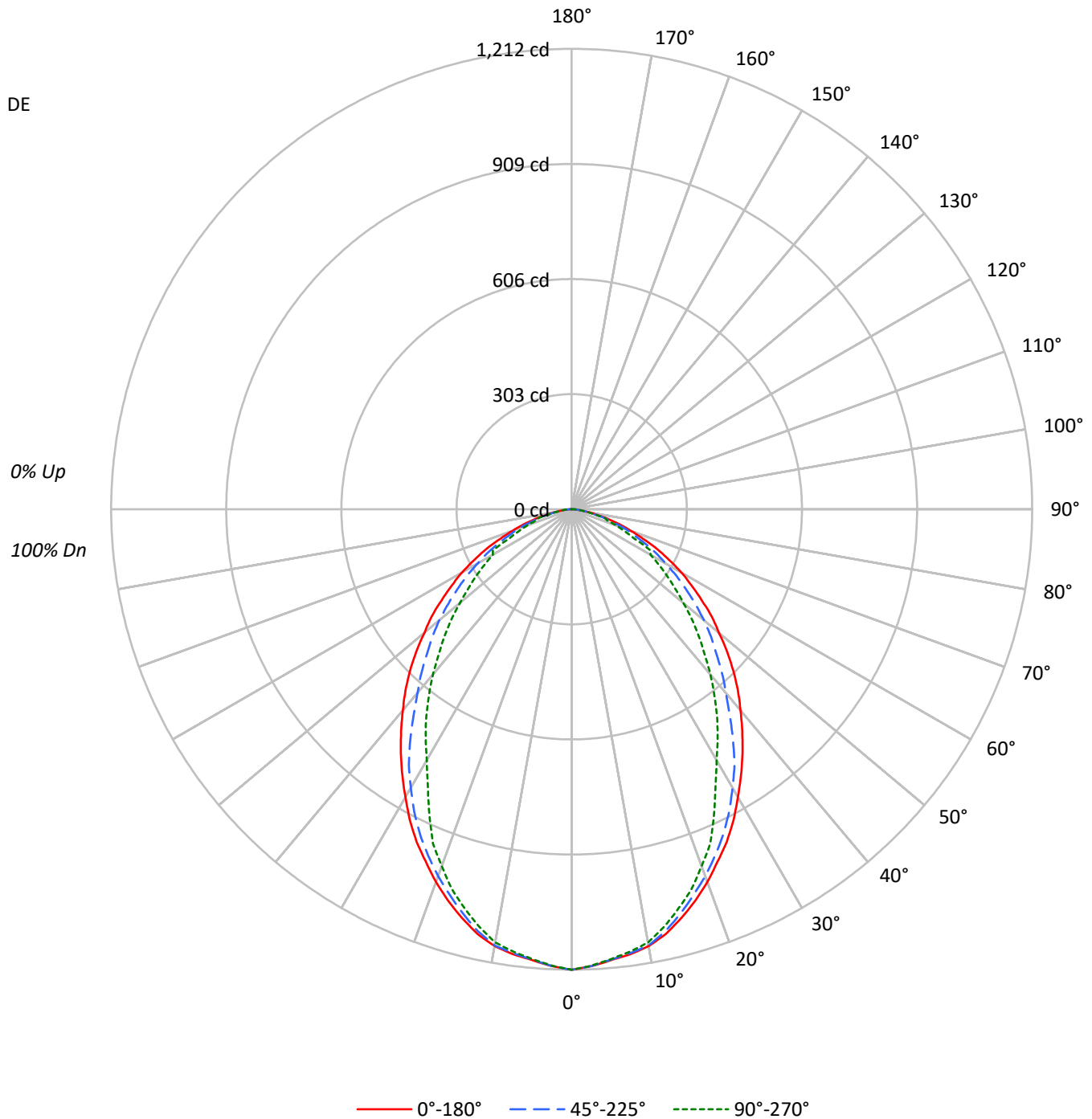
Lumens per Lamp: N/A
Luminaire Lumens: 2380.0 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	3262	3262	3262
5°	3218	3214	3210
10°	3190	3186	3163
15°	3104	3073	3030
20°	2990	2942	2862
25°	2867	2805	2630
30°	2718	2630	2369
35°	2574	2431	2191
40°	2427	2216	1994
45°	2288	2048	1803
50°	2118	1901	1608
55°	1960	1723	1440
60°	1795	1539	1290
65°	1580	1347	1142
70°	1301	1180	970
75°	1035	904	947
80°	694	651	607
85°	432	519	605

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2288 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	112.9	4.7
10°-20°	309.7	13.0
20°-30°	428.8	18.0
30°-40°	457.2	19.2
40°-50°	417.1	17.5
50°-60°	326.8	13.7
60°-70°	213.0	8.9
70°-80°	94.4	4.0
80°-90°	20.2	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°	851.3	35.8
0°-40°	1308.6	55.0
0°-60°	2052.4	86.2
0°-90°	2380.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2380.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1212	1212	1212	1212	1212	
5°	1191	1190	1190	1188	1188	113
15°	1114	1114	1103	1092	1088	313
25°	966	960	945	911	886	443
35°	784	778	740	684	667	490
45°	601	589	538	493	474	463
55°	418	405	367	324	307	375
65°	248	234	212	216	179	244
75°	100	92	87	83	91	107
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1212.3	1212.3	1212.3	1212.3	1212.3
2.5°	1203.9	1203.9	1203.9	1202.5	1202.5
5°	1191.3	1189.9	1189.9	1188.5	1188.5
7.5°	1181.5	1180.1	1178.7	1177.3	1174.5
10°	1167.5	1167.5	1166.1	1159.1	1157.7
12.5°	1145.1	1143.7	1138.1	1128.2	1125.4
15°	1114.2	1114.2	1103.0	1091.8	1087.6
17.5°	1080.6	1079.2	1065.2	1054.0	1048.4
20°	1044.2	1041.4	1027.3	1009.1	999.3
22.5°	1003.5	1003.5	986.7	962.9	953.1
25°	965.7	960.1	944.6	911.0	885.8
27.5°	922.2	913.8	897.0	849.3	819.9
30°	874.6	870.4	846.5	784.9	762.4
32.5°	829.7	822.7	797.5	733.0	714.8
35°	783.5	777.9	740.0	684.0	667.1
37.5°	737.2	730.2	682.6	637.7	616.7
40°	691.0	682.6	630.7	590.1	567.6
42.5°	647.5	636.3	585.8	542.4	517.2
45°	601.3	588.7	538.2	493.3	473.7
47.5°	555.0	543.8	497.6	451.3	428.9
50°	506.0	496.1	454.1	407.9	384.0
52.5°	465.3	449.9	409.3	363.0	343.4
55°	417.7	405.0	367.2	323.8	306.9
57.5°	374.2	361.6	326.6	285.9	271.9
60°	333.6	315.3	285.9	250.9	239.7
62.5°	288.7	274.7	249.5	220.0	234.1
65°	248.1	234.1	211.6	215.8	179.4
67.5°	203.2	196.2	176.6	157.0	151.4
70°	165.4	157.0	150.0	128.9	123.3
72.5°	131.7	123.3	113.5	102.3	98.1
75°	99.5	92.5	86.9	82.7	91.1
77.5°	68.7	65.9	61.7	57.5	56.1
80°	44.8	43.4	42.0	40.6	39.2
82.5°	26.6	26.6	26.6	26.6	26.6
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)