

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: P560947

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560947
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-35-UNV-80-85-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

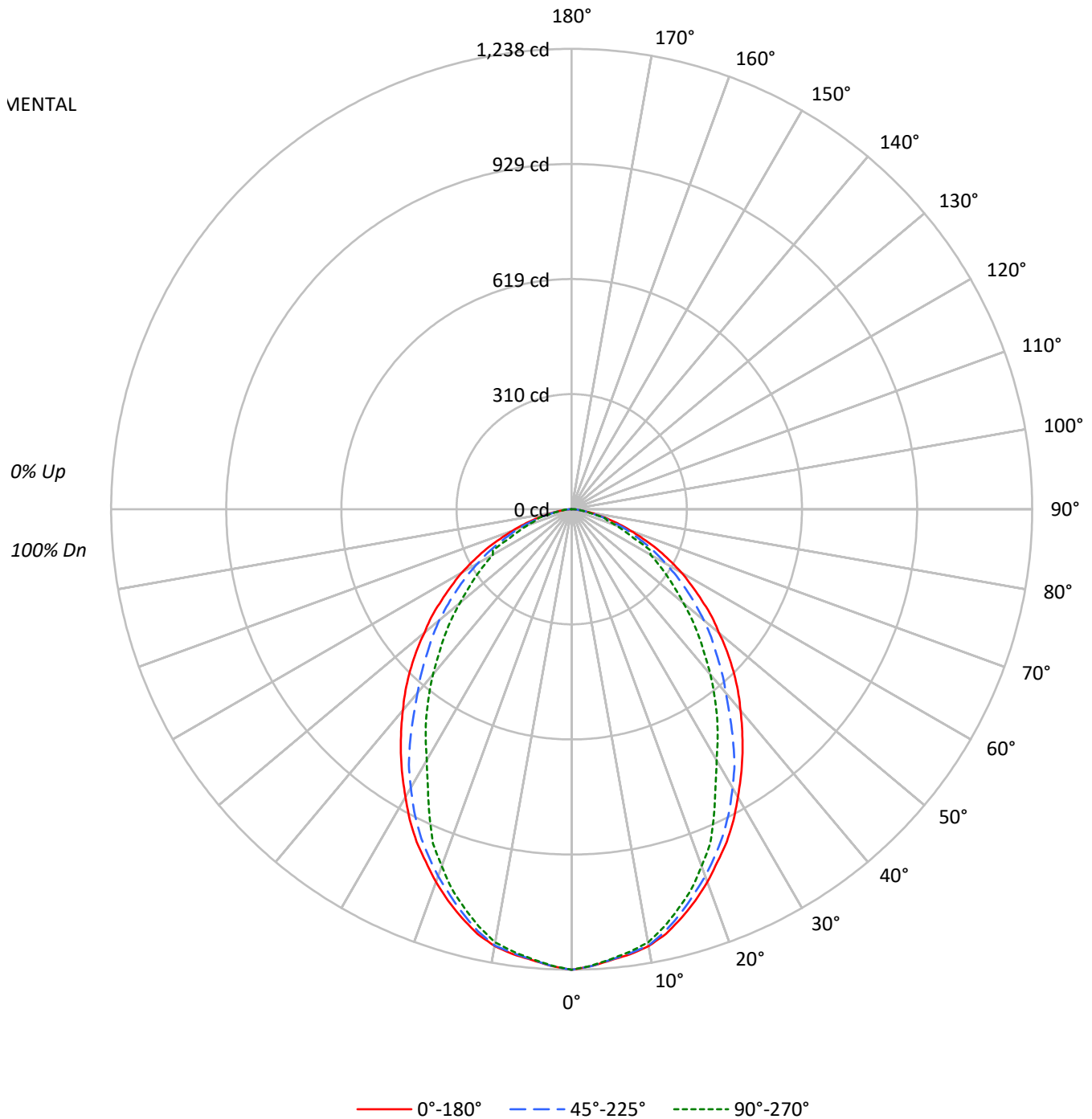
Lumens per Lamp: N/A
Luminaire Lumens: 2431.0 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3332	3332	3332
5°	3287	3283	3279
10°	3258	3255	3231
15°	3171	3139	3095
20°	3054	3005	2923
25°	2929	2865	2687
30°	2776	2687	2420
35°	2629	2483	2238
40°	2479	2263	2037
45°	2337	2092	1842
50°	2164	1942	1642
55°	2001	1760	1471
60°	1834	1572	1318
65°	1613	1377	1167
70°	1329	1205	991
75°	1056	923	968
80°	710	665	621
85°	442	531	618

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2337 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.3	4.7
10°-20°	316.4	13.0
20°-30°	438.0	18.0
30°-40°	467.0	19.2
40°-50°	426.0	17.5
50°-60°	333.8	13.7
60°-70°	217.5	8.9
70°-80°	96.4	4.0
80°-90°	20.7	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°	869.6	35.8
0°-40°	1336.6	55.0
0°-60°	2096.4	86.2
0°-90°	2431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1238	1238	1238	1238	1238	
5°	1217	1215	1215	1214	1214	116
15°	1138	1138	1127	1115	1111	320
25°	986	981	965	930	905	453
35°	800	794	756	699	681	500
45°	614	601	550	504	484	473
55°	427	414	375	331	314	383
65°	253	239	216	220	183	250
75°	102	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1238.3	1238.3	1238.3	1238.3	1238.3
2.5°	1229.7	1229.7	1229.7	1228.3	1228.3
5°	1216.8	1215.4	1215.4	1214.0	1214.0
7.5°	1206.8	1205.4	1204.0	1202.5	1199.7
10°	1192.5	1192.5	1191.1	1183.9	1182.5
12.5°	1169.6	1168.2	1162.4	1152.4	1149.6
15°	1138.1	1138.1	1126.7	1115.2	1110.9
17.5°	1103.8	1102.3	1088.0	1076.6	1070.8
20°	1066.5	1063.7	1049.4	1030.7	1020.7
22.5°	1025.0	1025.0	1007.8	983.5	973.5
25°	986.4	980.6	964.9	930.5	904.8
27.5°	942.0	933.4	916.2	867.5	837.5
30°	893.3	889.0	864.7	801.7	778.8
32.5°	847.5	840.3	814.6	748.7	730.1
35°	800.3	794.5	755.9	698.6	681.4
37.5°	753.0	745.9	697.2	651.4	629.9
40°	705.8	697.2	644.2	602.7	579.8
42.5°	661.4	649.9	598.4	554.0	528.3
45°	614.1	601.3	549.7	503.9	483.9
47.5°	566.9	555.5	508.2	461.0	438.1
50°	516.8	506.8	463.8	416.6	392.3
52.5°	475.3	459.5	418.0	370.8	350.7
55°	426.6	413.7	375.1	330.7	313.5
57.5°	382.2	369.3	333.6	292.0	277.7
60°	340.7	322.1	292.0	256.3	244.8
62.5°	294.9	280.6	254.8	224.8	239.1
65°	253.4	239.1	216.2	220.5	183.2
67.5°	207.6	200.4	180.4	160.3	154.6
70°	168.9	160.3	153.2	131.7	126.0
72.5°	134.6	126.0	116.0	104.5	100.2
75°	101.6	94.5	88.8	84.5	93.1
77.5°	70.1	67.3	63.0	58.7	57.3
80°	45.8	44.4	42.9	41.5	40.1
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.7	17.2	18.6	20.0
87.5°	8.6	8.6	10.0	11.5	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)