

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: P560296

Luminaire Tested: FSR-12-2-LD4-2HI-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560296
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-12-2-LD4-2HI-40-UNV-93-88-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2687.0 lumens
Efficiency: N/A
Efficacy: 62.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

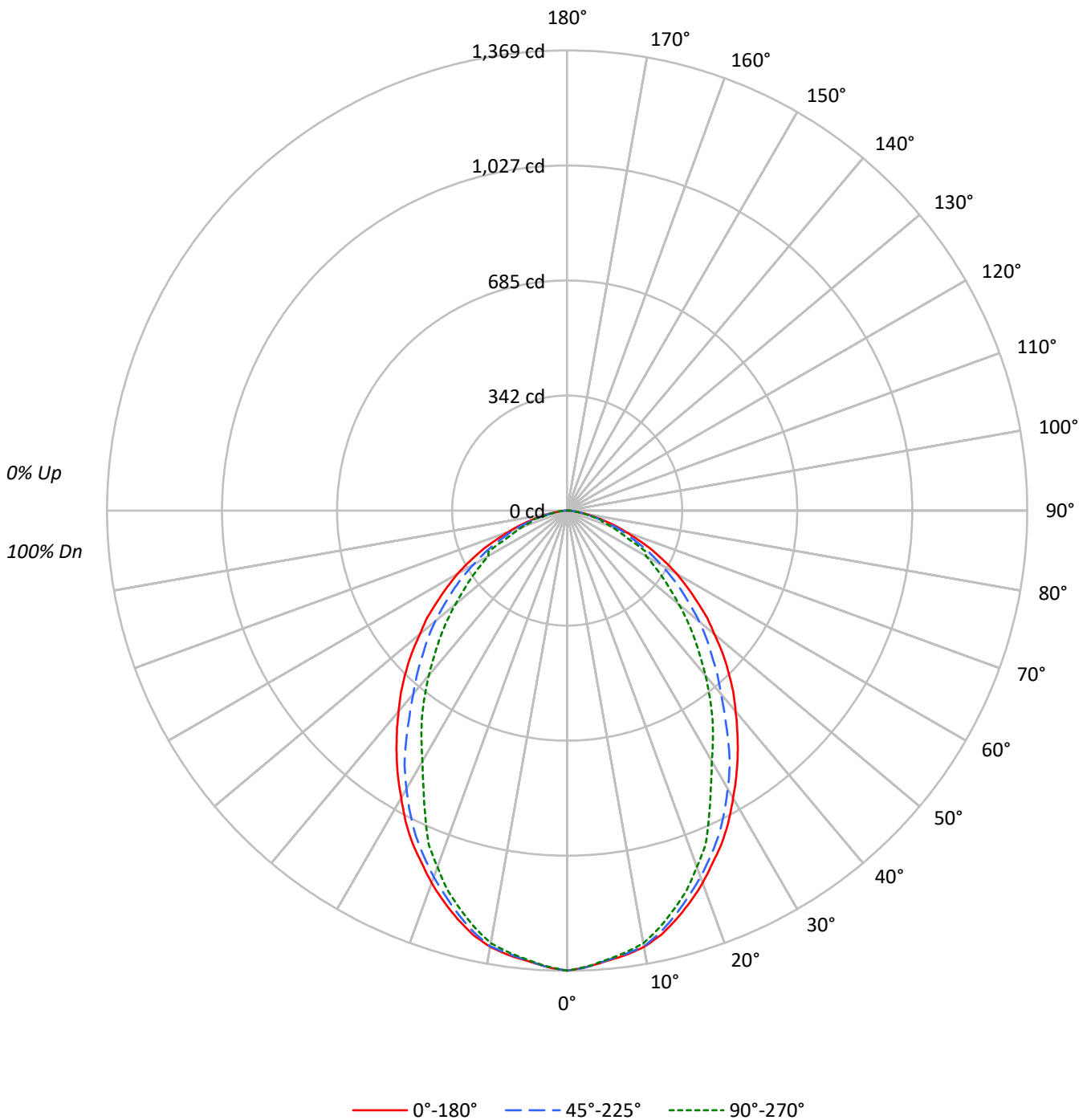
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7366	7366	7366
5°	7266	7258	7249
10°	7203	7195	7143
15°	7009	6939	6842
20°	6751	6643	6462
25°	6474	6333	5938
30°	6136	5939	5349
35°	5811	5489	4949
40°	5481	5003	4502
45°	5167	4625	4070
50°	4783	4293	3630
55°	4424	3890	3251
60°	4054	3475	2913
65°	3567	3042	2579
70°	2938	2664	2190
75°	2335	2040	2140
80°	1568	1472	1373
85°	976	1173	1371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5167 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.4	4.7
10°-20°	349.7	13.0
20°-30°	484.1	18.0
30°-40°	516.2	19.2
40°-50°	470.9	17.5
50°-60°	368.9	13.7
60°-70°	240.4	8.9
70°-80°	106.5	4.0
80°-90°	22.9	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°	961.2	35.8
0°-40°	1477.3	55.0
0°-60°	2317.2	86.2
0°-90°	2687.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2687.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1369	1369	1369	1369	1369	
5°	1345	1343	1343	1342	1342	128
15°	1258	1258	1245	1233	1228	354
25°	1090	1084	1066	1028	1000	501
35°	884	878	836	772	753	553
45°	679	665	608	557	535	523
55°	472	457	415	366	346	423
65°	280	264	239	244	202	276
75°	112	104	98	93	103	120
85°	16	17	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1368.7	1368.7	1368.7	1368.7	1368.7
2.5°	1359.2	1359.2	1359.2	1357.6	1357.6
5°	1345.0	1343.4	1343.4	1341.8	1341.8
7.5°	1333.9	1332.3	1330.7	1329.2	1326.0
10°	1318.1	1318.1	1316.5	1308.6	1307.0
12.5°	1292.8	1291.2	1284.9	1273.8	1270.6
15°	1258.0	1258.0	1245.3	1232.6	1227.9
17.5°	1220.0	1218.4	1202.6	1189.9	1183.6
20°	1178.8	1175.7	1159.9	1139.3	1128.2
22.5°	1133.0	1133.0	1114.0	1087.1	1076.0
25°	1090.2	1083.9	1066.5	1028.5	1000.0
27.5°	1041.2	1031.7	1012.7	958.9	925.7
30°	987.4	982.6	955.7	886.1	860.8
32.5°	936.7	928.8	900.4	827.6	807.0
35°	884.5	878.2	835.5	772.2	753.2
37.5°	832.3	824.4	770.6	720.0	696.2
40°	780.1	770.6	712.1	666.2	640.8
42.5°	731.0	718.4	661.4	612.4	583.9
45°	678.8	664.6	607.6	557.0	534.8
47.5°	626.6	613.9	561.7	509.5	484.2
50°	571.2	560.1	512.7	460.5	433.6
52.5°	525.3	507.9	462.0	409.8	387.7
55°	471.5	457.3	414.6	365.5	346.5
57.5°	422.5	408.2	368.7	322.8	307.0
60°	376.6	356.0	322.8	283.2	270.6
62.5°	326.0	310.1	281.7	248.4	264.3
65°	280.1	264.3	238.9	243.7	202.5
67.5°	229.4	221.5	199.4	177.2	170.9
70°	186.7	177.2	169.3	145.6	139.2
72.5°	148.7	139.2	128.2	115.5	110.8
75°	112.3	104.4	98.1	93.4	102.9
77.5°	77.5	74.4	69.6	64.9	63.3
80°	50.6	49.1	47.5	45.9	44.3
82.5°	30.1	30.1	30.1	30.1	30.1
85°	15.8	17.4	19.0	20.6	22.2
87.5°	9.5	9.5	11.1	12.7	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)