

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: P560684

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560684
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-LD4-2STD-40-UNV-93-96-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2571.0 lumens
Efficiency: N/A
Efficacy: 77.2 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

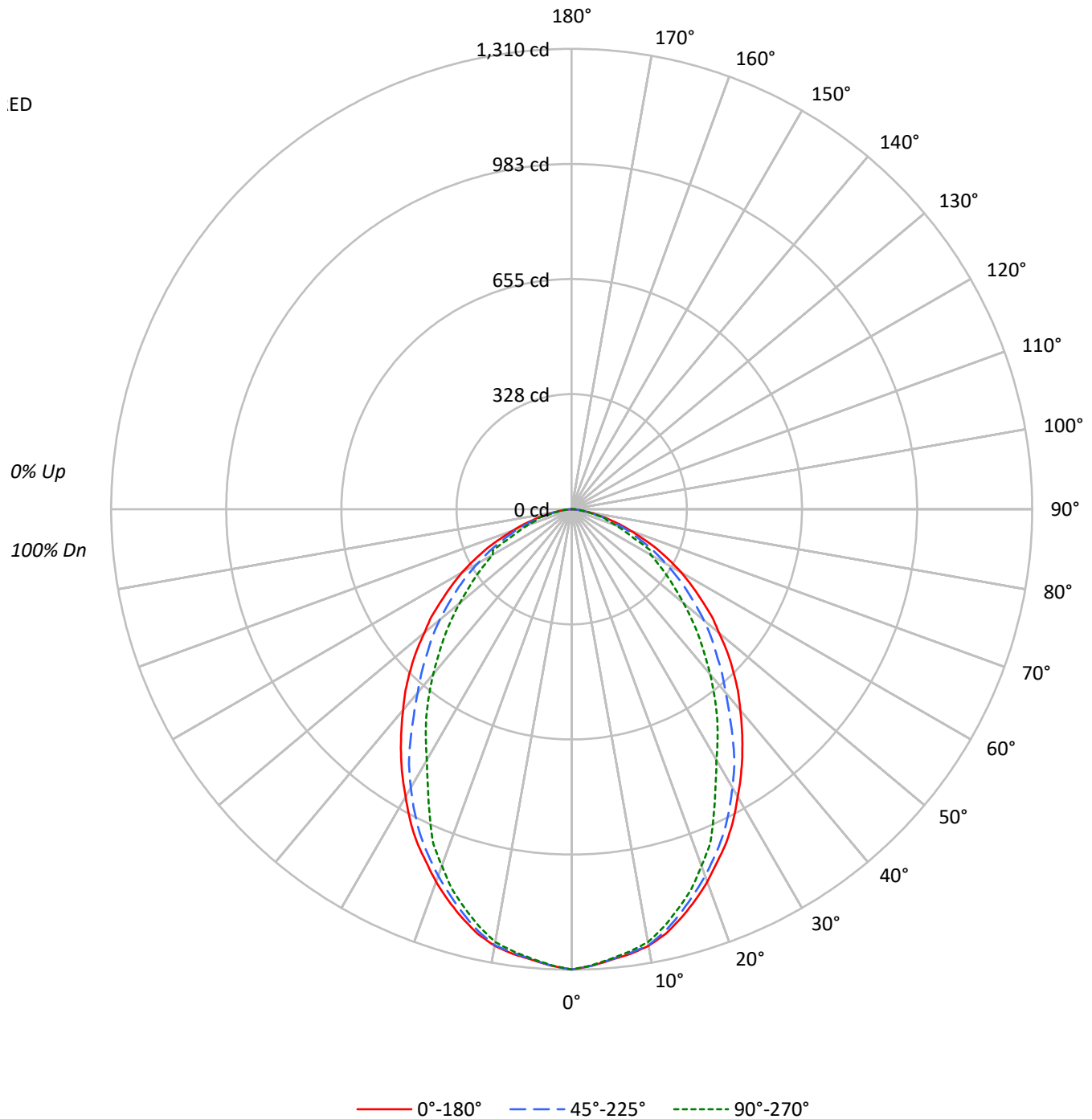
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7048	7048	7048
5°	6952	6944	6936
10°	6892	6884	6835
15°	6707	6639	6546
20°	6460	6356	6183
25°	6195	6060	5682
30°	5872	5683	5118
35°	5560	5252	4735
40°	5244	4787	4308
45°	4943	4425	3895
50°	4577	4107	3473
55°	4234	3722	3111
60°	3878	3325	2787
65°	3413	2911	2468
70°	2812	2549	2096
75°	2235	1953	2046
80°	1500	1407	1314
85°	932	1124	1309

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4943 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	4.7
10°-20°	334.6	13.0
20°-30°	463.2	18.0
30°-40°	493.9	19.2
40°-50°	450.6	17.5
50°-60°	353.0	13.7
60°-70°	230.1	8.9
70°-80°	101.9	4.0
80°-90°	21.9	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°	919.7	35.8
0°-40°	1413.6	55.0
0°-60°	2217.1	86.2
0°-90°	2571.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2571.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1310	1310	1310	1310	1310	
5°	1287	1285	1285	1284	1284	122
15°	1204	1204	1192	1179	1175	338
25°	1043	1037	1020	984	957	479
35°	846	840	799	739	721	529
45°	650	636	581	533	512	500
55°	451	438	397	350	332	405
65°	268	253	229	233	194	264
75°	108	100	94	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1309.6	1309.6	1309.6	1309.6	1309.6
2.5°	1300.5	1300.5	1300.5	1299.0	1299.0
5°	1286.9	1285.4	1285.4	1283.9	1283.9
7.5°	1276.3	1274.8	1273.3	1271.8	1268.8
10°	1261.2	1261.2	1259.7	1252.1	1250.6
12.5°	1237.0	1235.4	1229.4	1218.8	1215.8
15°	1203.7	1203.7	1191.5	1179.4	1174.9
17.5°	1167.3	1165.8	1150.7	1138.5	1132.5
20°	1127.9	1124.9	1109.8	1090.1	1079.5
22.5°	1084.0	1084.0	1065.9	1040.1	1029.5
25°	1043.2	1037.1	1020.5	984.1	956.9
27.5°	996.2	987.1	969.0	917.5	885.7
30°	944.8	940.2	914.5	847.9	823.6
32.5°	896.3	888.7	861.5	791.8	772.2
35°	846.3	840.3	799.4	738.8	720.7
37.5°	796.4	788.8	737.3	688.9	666.2
40°	746.4	737.3	681.3	637.4	613.2
42.5°	699.5	687.4	632.9	585.9	558.7
45°	649.5	635.9	581.4	532.9	511.7
47.5°	599.6	587.4	537.5	487.5	463.3
50°	546.6	536.0	490.5	440.6	414.8
52.5°	502.7	486.0	442.1	392.1	370.9
55°	451.2	437.6	396.7	349.7	331.6
57.5°	404.2	390.6	352.8	308.9	293.7
60°	360.3	340.7	308.9	271.0	258.9
62.5°	311.9	296.7	269.5	237.7	252.8
65°	268.0	252.8	228.6	233.2	193.8
67.5°	219.5	212.0	190.8	169.6	163.5
70°	178.7	169.6	162.0	139.3	133.2
72.5°	142.3	133.2	122.6	110.5	106.0
75°	107.5	99.9	93.9	89.3	98.4
77.5°	74.2	71.2	66.6	62.1	60.6
80°	48.4	46.9	45.4	43.9	42.4
82.5°	28.8	28.8	28.8	28.8	28.8
85°	15.1	16.7	18.2	19.7	21.2
87.5°	9.1	9.1	10.6	12.1	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)