

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: P561320

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561320
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-LD4-1STD-50-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2511.0 lumens
Efficiency: N/A
Efficacy: 75.4 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

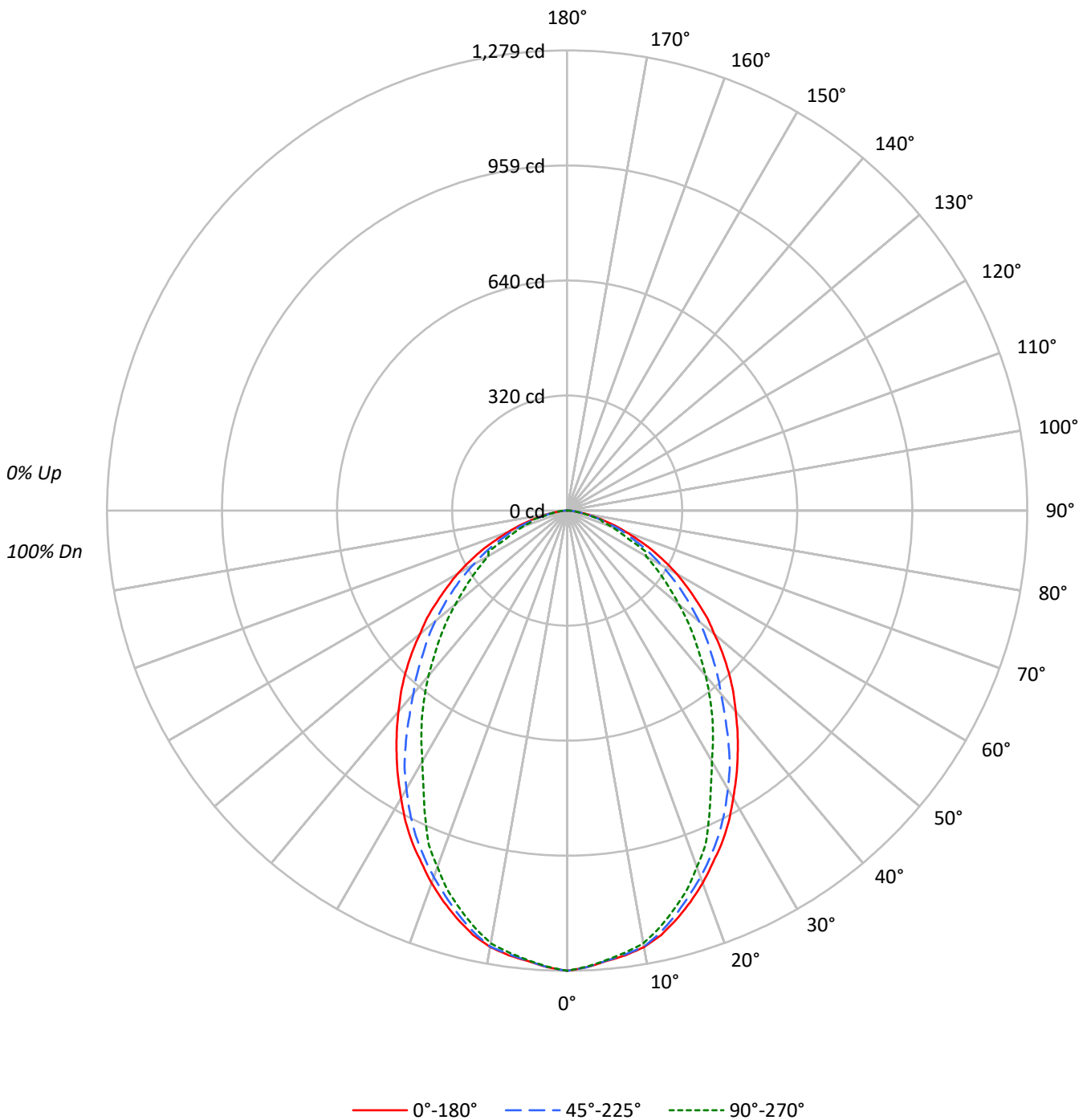
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3442	3442	3442
5°	3395	3391	3387
10°	3366	3362	3337
15°	3275	3242	3197
20°	3155	3104	3019
25°	3025	2959	2775
30°	2867	2775	2499
35°	2715	2565	2312
40°	2561	2337	2104
45°	2414	2161	1902
50°	2235	2006	1696
55°	2068	1818	1519
60°	1894	1624	1361
65°	1666	1422	1205
70°	1373	1245	1024
75°	1092	953	999
80°	733	688	642
85°	457	546	639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2414 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.1	4.7
10°-20°	326.8	13.0
20°-30°	452.4	18.0
30°-40°	482.4	19.2
40°-50°	440.1	17.5
50°-60°	344.8	13.7
60°-70°	224.7	8.9
70°-80°	99.5	4.0
80°-90°	21.4	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°	898.2	35.8
0°-40°	1380.6	55.0
0°-60°	2165.4	86.2
0°-90°	2511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1279	1279	1279	1279	1279	
5°	1257	1255	1255	1254	1254	119
15°	1176	1176	1164	1152	1148	330
25°	1019	1013	997	961	934	468
35°	827	821	781	722	704	517
45°	634	621	568	520	500	489
55°	441	427	387	342	324	395
65°	262	247	223	228	189	258
75°	105	98	92	87	96	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1279.1	1279.1	1279.1	1279.1	1279.1
2.5°	1270.2	1270.2	1270.2	1268.7	1268.7
5°	1256.9	1255.4	1255.4	1253.9	1253.9
7.5°	1246.5	1245.1	1243.6	1242.1	1239.1
10°	1231.8	1231.8	1230.3	1222.9	1221.4
12.5°	1208.1	1206.6	1200.7	1190.3	1187.4
15°	1175.6	1175.6	1163.7	1151.9	1147.5
17.5°	1140.1	1138.6	1123.8	1112.0	1106.1
20°	1101.6	1098.7	1083.9	1064.7	1054.3
22.5°	1058.7	1058.7	1041.0	1015.9	1005.5
25°	1018.8	1012.9	996.6	961.2	934.5
27.5°	973.0	964.1	946.4	896.1	865.0
30°	922.7	918.3	893.1	828.1	804.4
32.5°	875.4	868.0	841.4	773.4	754.1
35°	826.6	820.7	780.8	721.6	703.9
37.5°	777.8	770.4	720.1	672.8	650.6
40°	729.0	720.1	665.4	622.5	598.9
42.5°	683.2	671.3	618.1	572.3	545.6
45°	634.4	621.1	567.8	520.5	499.8
47.5°	585.6	573.7	524.9	476.1	452.5
50°	533.8	523.5	479.1	430.3	405.2
52.5°	490.9	474.7	431.8	383.0	362.3
55°	440.7	427.3	387.4	341.6	323.8
57.5°	394.8	381.5	344.5	301.7	286.9
60°	351.9	332.7	301.7	264.7	252.9
62.5°	304.6	289.8	263.2	232.2	246.9
65°	261.7	246.9	223.3	227.7	189.3
67.5°	214.4	207.0	186.3	165.6	159.7
70°	174.5	165.6	158.2	136.0	130.1
72.5°	139.0	130.1	119.8	107.9	103.5
75°	105.0	97.6	91.7	87.2	96.1
77.5°	72.5	69.5	65.1	60.6	59.1
80°	47.3	45.8	44.4	42.9	41.4
82.5°	28.1	28.1	28.1	28.1	28.1
85°	14.8	16.3	17.7	19.2	20.7
87.5°	8.9	8.9	10.4	11.8	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)