

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: P560973

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560973
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-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2336.0 lumens
Efficiency: N/A
Efficacy: 99.8 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

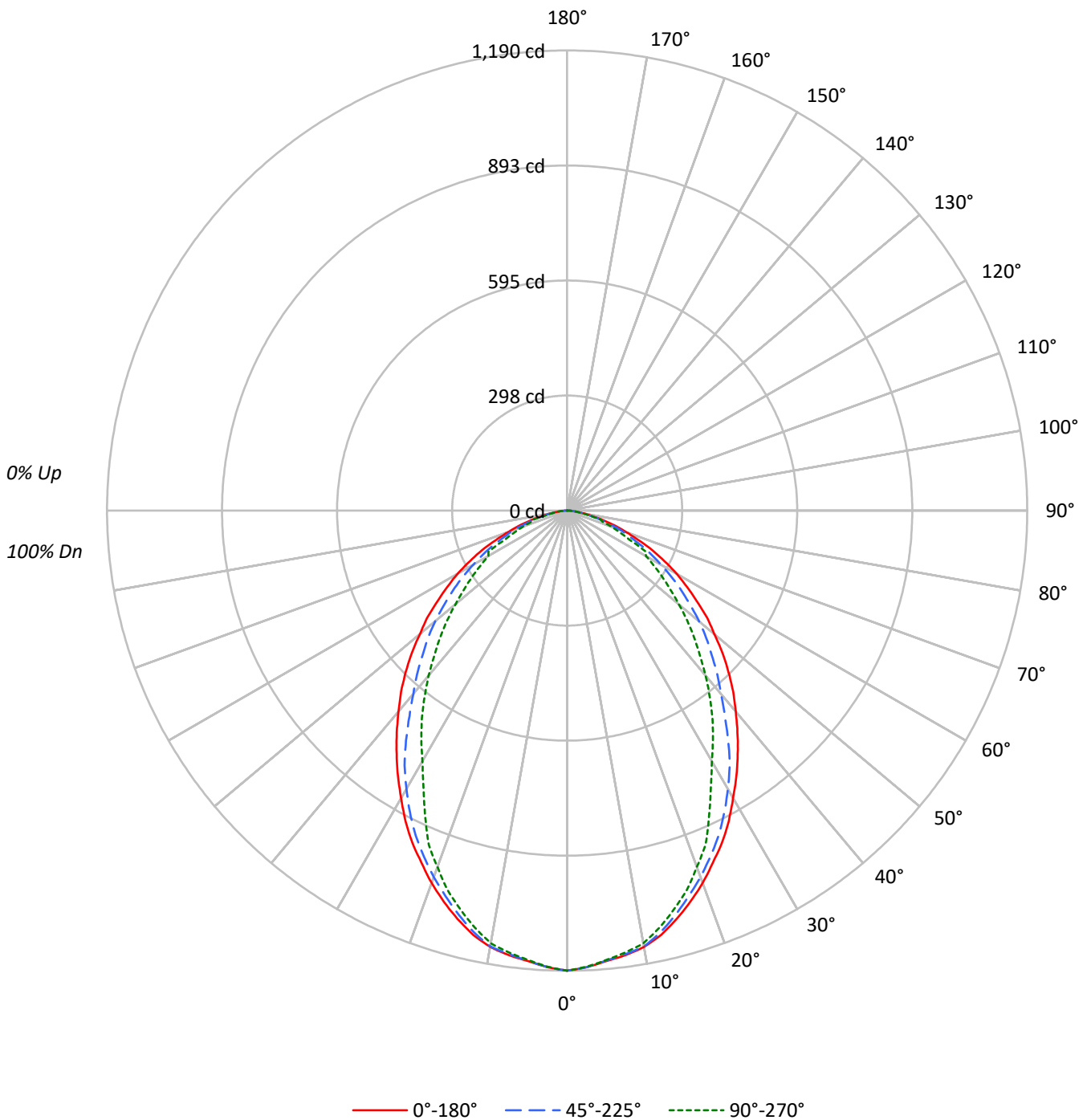
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3202	3202	3202
5°	3159	3155	3151
10°	3131	3127	3105
15°	3047	3016	2974
20°	2935	2887	2809
25°	2814	2753	2581
30°	2667	2582	2325
35°	2526	2386	2151
40°	2382	2174	1957
45°	2246	2010	1770
50°	2079	1866	1578
55°	1923	1691	1414
60°	1762	1510	1266
65°	1550	1323	1121
70°	1277	1158	953
75°	1016	887	930
80°	682	640	597
85°	426	509	596

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2246 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.8	4.7
10°-20°	304.0	13.0
20°-30°	420.9	18.0
30°-40°	448.7	19.2
40°-50°	409.4	17.5
50°-60°	320.7	13.7
60°-70°	209.0	8.9
70°-80°	92.6	4.0
80°-90°	19.9	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°	835.6	35.8
0°-40°	1284.4	55.0
0°-60°	2014.5	86.2
0°-90°	2336.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2336.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1190	1190	1190	1190	1190	
5°	1169	1168	1168	1166	1166	111
15°	1094	1094	1083	1072	1068	307
25°	948	942	927	894	869	435
35°	769	764	726	671	655	481
45°	590	578	528	484	465	455
55°	410	398	360	318	301	368
65°	244	230	208	212	176	240
75°	98	91	85	81	89	105
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1189.9	1189.9	1189.9	1189.9	1189.9
2.5°	1181.7	1181.7	1181.7	1180.3	1180.3
5°	1169.3	1167.9	1167.9	1166.5	1166.5
7.5°	1159.7	1158.3	1156.9	1155.5	1152.8
10°	1145.9	1145.9	1144.5	1137.7	1136.3
12.5°	1123.9	1122.5	1117.0	1107.4	1104.6
15°	1093.6	1093.6	1082.6	1071.6	1067.5
17.5°	1060.6	1059.2	1045.5	1034.5	1029.0
20°	1024.9	1022.1	1008.3	990.5	980.8
22.5°	985.0	985.0	968.4	945.1	935.4
25°	947.8	942.3	927.2	894.2	869.4
27.5°	905.2	896.9	880.4	833.6	804.7
30°	858.4	854.3	830.9	770.4	748.3
32.5°	814.4	807.5	782.7	719.5	701.6
35°	769.0	763.5	726.3	671.3	654.8
37.5°	723.6	716.7	669.9	625.9	605.3
40°	678.2	669.9	619.0	579.1	557.1
42.5°	635.5	624.5	575.0	532.4	507.6
45°	590.1	577.8	528.2	484.2	465.0
47.5°	544.8	533.7	488.4	443.0	420.9
50°	496.6	487.0	445.7	400.3	376.9
52.5°	456.7	441.6	401.7	356.3	337.0
55°	409.9	397.6	360.4	317.8	301.3
57.5°	367.3	354.9	320.5	280.6	266.9
60°	327.4	309.5	280.6	246.2	235.2
62.5°	283.4	269.6	244.9	216.0	229.7
65°	243.5	229.7	207.7	211.8	176.1
67.5°	199.5	192.6	173.3	154.1	148.6
70°	162.3	154.1	147.2	126.6	121.1
72.5°	129.3	121.1	111.4	100.4	96.3
75°	97.7	90.8	85.3	81.2	89.4
77.5°	67.4	64.7	60.5	56.4	55.0
80°	44.0	42.6	41.3	39.9	38.5
82.5°	26.1	26.1	26.1	26.1	26.1
85°	13.8	15.1	16.5	17.9	19.3
87.5°	8.3	8.3	9.6	11.0	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)