

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: P561954

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561954
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-24-2-LD4-1LO-35-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2395.0 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

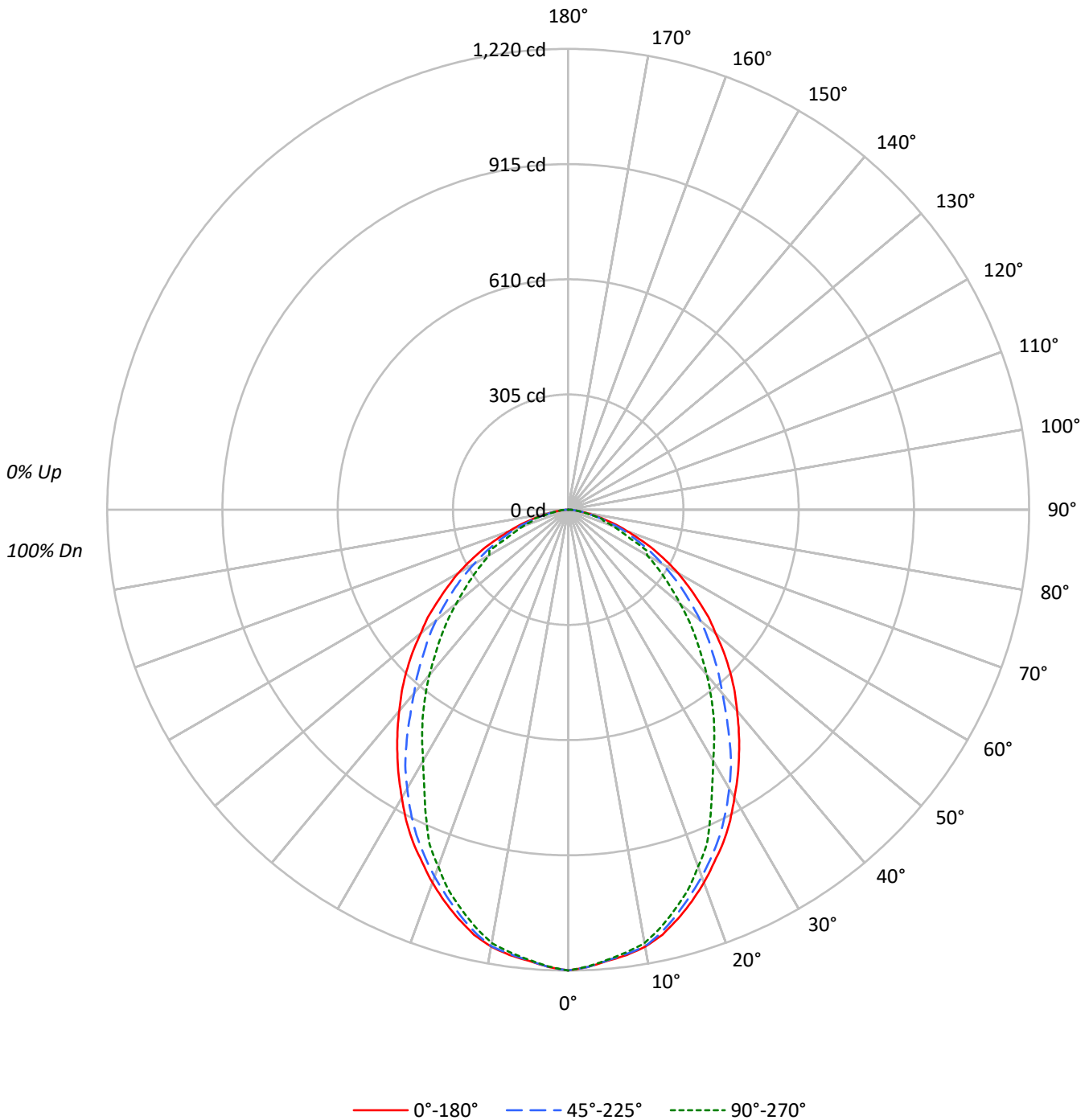
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	1641	1641	1641
5°	1619	1617	1615
10°	1605	1603	1592
15°	1562	1546	1525
20°	1504	1480	1440
25°	1443	1411	1323
30°	1367	1324	1192
35°	1295	1223	1103
40°	1221	1115	1003
45°	1151	1031	907
50°	1066	957	809
55°	986	867	725
60°	903	774	649
65°	795	678	575
70°	655	594	488
75°	520	454	477
80°	349	328	306
85°	218	261	304

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1151 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.6	4.7
10°-20°	311.7	13.0
20°-30°	431.5	18.0
30°-40°	460.1	19.2
40°-50°	419.7	17.5
50°-60°	328.8	13.7
60°-70°	214.3	8.9
70°-80°	94.9	4.0
80°-90°	20.4	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°	856.7	35.8
0°-40°	1316.8	55.0
0°-60°	2065.3	86.2
0°-90°	2395.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2395.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1199	1197	1197	1196	1196	114
15°	1121	1121	1110	1099	1094	315
25°	972	966	951	917	891	446
35°	788	783	745	688	671	493
45°	605	592	542	496	477	466
55°	420	408	370	326	309	377
65°	250	236	213	217	180	246
75°	100	93	87	83	92	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1220.0	1220.0	1220.0	1220.0	1220.0
2.5°	1211.5	1211.5	1211.5	1210.1	1210.1
5°	1198.8	1197.4	1197.4	1196.0	1196.0
7.5°	1189.0	1187.5	1186.1	1184.7	1181.9
10°	1174.8	1174.8	1173.4	1166.4	1165.0
12.5°	1152.3	1150.9	1145.2	1135.4	1132.5
15°	1121.3	1121.3	1110.0	1098.7	1094.5
17.5°	1087.4	1086.0	1071.9	1060.6	1055.0
20°	1050.7	1047.9	1033.8	1015.5	1005.6
22.5°	1009.8	1009.8	992.9	968.9	959.1
25°	971.8	966.1	950.6	916.7	891.4
27.5°	928.0	919.6	902.6	854.7	825.1
30°	880.1	875.8	851.9	789.8	767.2
32.5°	834.9	827.9	802.5	737.6	719.3
35°	788.4	782.8	744.7	688.3	671.3
37.5°	741.9	734.8	686.9	641.7	620.6
40°	695.3	686.9	634.7	593.8	571.2
42.5°	651.6	640.3	589.5	545.8	520.4
45°	605.1	592.4	541.6	496.5	476.7
47.5°	558.5	547.2	500.7	454.1	431.6
50°	509.1	499.3	457.0	410.4	386.4
52.5°	468.2	452.7	411.8	365.3	345.5
55°	420.3	407.6	369.5	325.8	308.9
57.5°	376.6	363.9	328.6	287.7	273.6
60°	335.7	317.3	287.7	252.5	241.2
62.5°	290.5	276.4	251.0	221.4	235.5
65°	249.6	235.5	213.0	217.2	180.5
67.5°	204.5	197.5	177.7	158.0	152.3
70°	166.4	158.0	150.9	129.8	124.1
72.5°	132.6	124.1	114.2	103.0	98.7
75°	100.1	93.1	87.4	83.2	91.7
77.5°	69.1	66.3	62.1	57.8	56.4
80°	45.1	43.7	42.3	40.9	39.5
82.5°	26.8	26.8	26.8	26.8	26.8
85°	14.1	15.5	16.9	18.3	19.7
87.5°	8.5	8.5	9.9	11.3	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)