

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: P561184

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561184
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-35-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2785.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

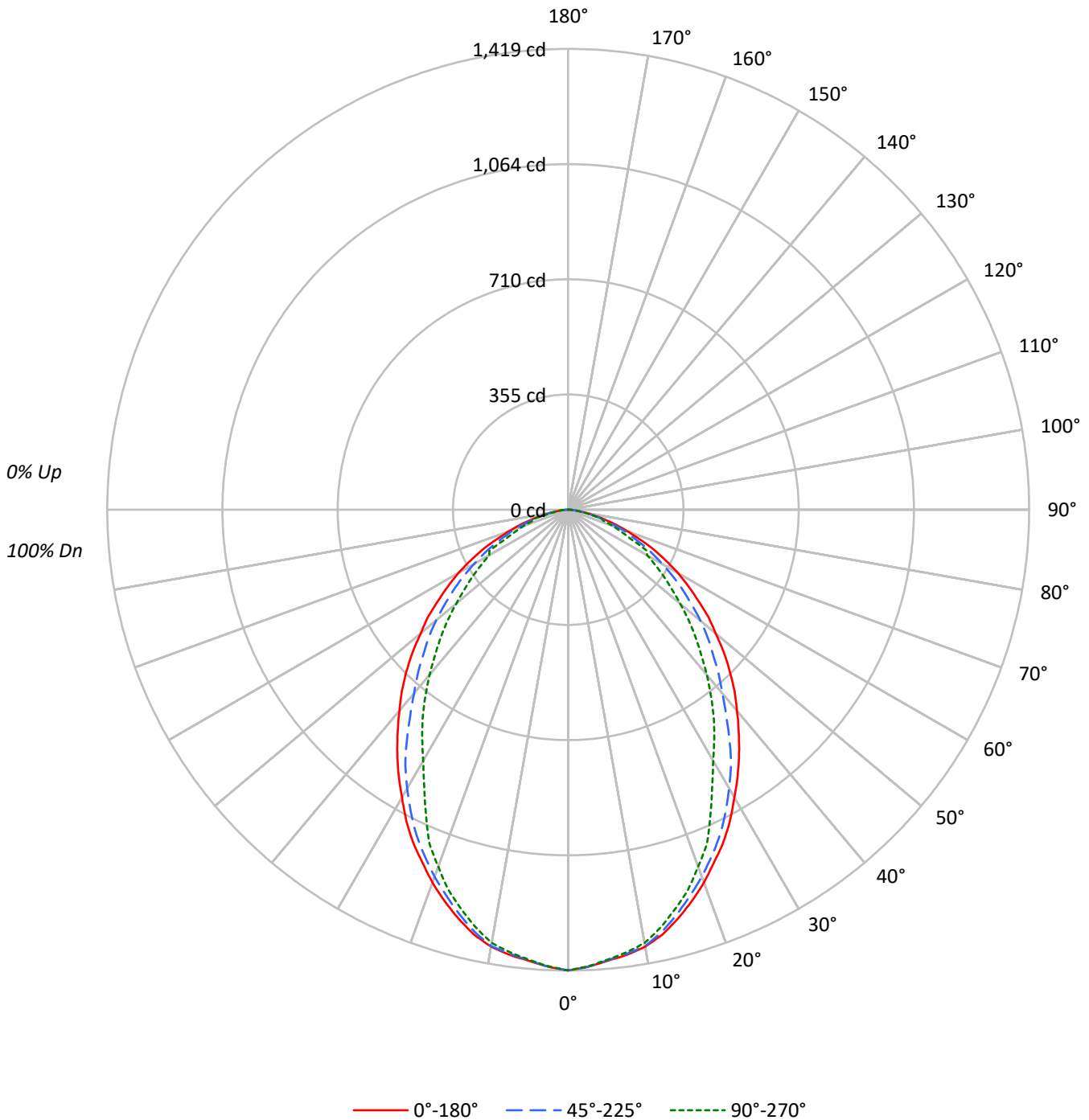
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	3817	3817	3817
5°	3766	3761	3757
10°	3733	3728	3702
15°	3632	3596	3546
20°	3499	3443	3349
25°	3355	3282	3078
30°	3180	3078	2772
35°	3012	2845	2565
40°	2840	2592	2333
45°	2678	2397	2109
50°	2479	2225	1881
55°	2293	2016	1685
60°	2101	1801	1509
65°	1848	1577	1337
70°	1522	1381	1135
75°	1210	1057	1108
80°	814	762	711
85°	506	608	710

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2678 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.1	4.7
10°-20°	362.4	13.0
20°-30°	501.7	18.0
30°-40°	535.0	19.2
40°-50°	488.1	17.5
50°-60°	382.4	13.7
60°-70°	249.2	8.9
70°-80°	110.4	4.0
80°-90°	23.7	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°	996.2	35.8
0°-40°	1531.2	55.0
0°-60°	2401.7	86.2
0°-90°	2785.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2785.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1394	1392	1392	1391	1391	132
15°	1304	1304	1291	1278	1273	367
25°	1130	1123	1105	1066	1036	519
35°	917	910	866	800	781	573
45°	704	689	630	577	554	542
55°	489	474	430	379	359	438
65°	290	274	248	253	210	286
75°	116	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1418.6	1418.6	1418.6	1418.6	1418.6
2.5°	1408.8	1408.8	1408.8	1407.2	1407.2
5°	1394.0	1392.4	1392.4	1390.8	1390.8
7.5°	1382.6	1380.9	1379.3	1377.6	1374.4
10°	1366.2	1366.2	1364.5	1356.3	1354.7
12.5°	1339.9	1338.3	1331.7	1320.2	1317.0
15°	1303.8	1303.8	1290.7	1277.6	1272.7
17.5°	1264.5	1262.8	1246.4	1233.3	1226.8
20°	1221.8	1218.6	1202.2	1180.8	1169.4
22.5°	1174.3	1174.3	1154.6	1126.7	1115.2
25°	1130.0	1123.4	1105.4	1066.0	1036.5
27.5°	1079.2	1069.3	1049.6	993.9	959.4
30°	1023.4	1018.5	990.6	918.4	892.2
32.5°	970.9	962.7	933.2	857.7	836.4
35°	916.8	910.2	865.9	800.3	780.7
37.5°	862.7	854.5	798.7	746.2	721.6
40°	808.5	798.7	738.0	690.5	664.2
42.5°	757.7	744.6	685.5	634.7	605.2
45°	703.6	688.8	629.8	577.3	554.3
47.5°	649.5	636.3	582.2	528.1	501.9
50°	592.1	580.6	531.4	477.3	449.4
52.5°	544.5	526.5	478.9	424.8	401.8
55°	488.7	474.0	429.7	378.9	359.2
57.5°	437.9	423.1	382.1	334.6	318.2
60°	390.3	369.0	334.6	293.6	280.4
62.5°	337.8	321.4	291.9	257.5	273.9
65°	290.3	273.9	247.6	252.6	209.9
67.5°	237.8	229.6	206.6	183.7	177.1
70°	193.5	183.7	175.5	150.9	144.3
72.5°	154.2	144.3	132.8	119.7	114.8
75°	116.4	108.2	101.7	96.8	106.6
77.5°	80.4	77.1	72.2	67.2	65.6
80°	52.5	50.8	49.2	47.6	45.9
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.0	19.7	21.3	23.0
87.5°	9.8	9.8	11.5	13.1	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)