

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: P563303

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563303
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-24-4-LD4-3LO-35-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8213.0 lumens
Efficiency: N/A
Efficacy: 117.0 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

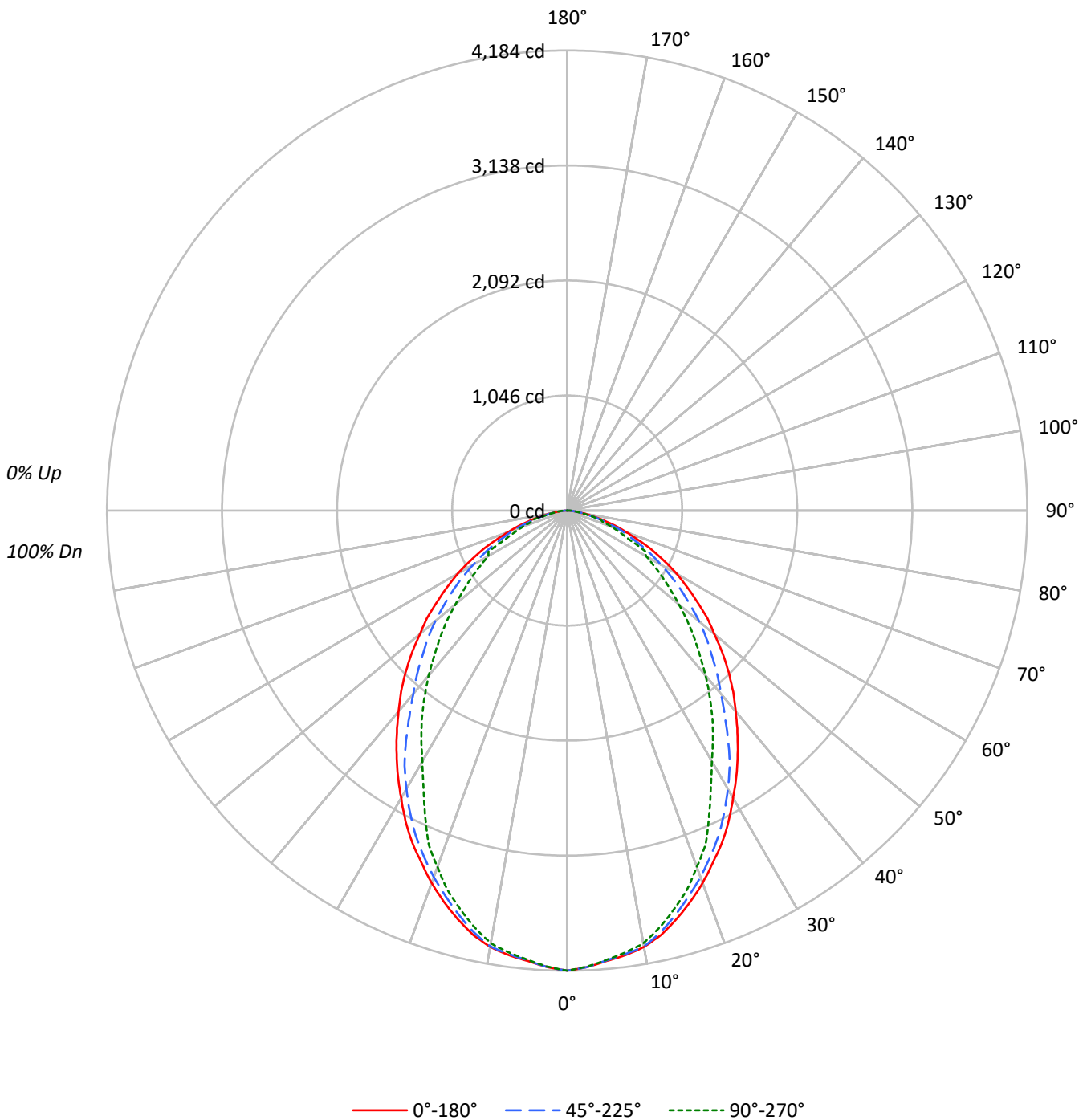
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5629	5629	5629
5°	5552	5546	5539
10°	5504	5498	5458
15°	5356	5302	5228
20°	5159	5076	4938
25°	4947	4839	4538
30°	4689	4539	4088
35°	4441	4195	3781
40°	4188	3823	3440
45°	3948	3534	3111
50°	3655	3280	2774
55°	3381	2973	2485
60°	3098	2655	2225
65°	2726	2325	1971
70°	2245	2036	1674
75°	1785	1559	1634
80°	1199	1124	1049
85°	747	895	1045

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3948 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	389.4	4.7
10°-20°	1068.8	13.0
20°-30°	1479.6	18.0
30°-40°	1577.7	19.2
40°-50°	1439.4	17.5
50°-60°	1127.6	13.7
60°-70°	734.9	8.9
70°-80°	325.6	4.0
80°-90°	69.9	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°	2937.9	35.8
0°-40°	4515.6	55.0
0°-60°	7082.6	86.2
0°-90°	8213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4184	4184	4184	4184	4184	
5°	4111	4106	4106	4101	4101	390
15°	3845	3845	3806	3768	3753	1081
25°	3332	3313	3260	3144	3057	1530
35°	2704	2684	2554	2360	2302	1690
45°	2075	2031	1857	1702	1635	1598
55°	1441	1398	1267	1117	1059	1293
65°	856	808	730	745	619	844
75°	343	319	300	285	314	368
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4183.6	4183.6	4183.6	4183.6	4183.6
2.5°	4154.6	4154.6	4154.6	4149.7	4149.7
5°	4111.0	4106.2	4106.2	4101.4	4101.4
7.5°	4077.2	4072.4	4067.5	4062.7	4053.0
10°	4028.8	4028.8	4024.0	3999.8	3995.0
12.5°	3951.4	3946.6	3927.3	3893.4	3883.7
15°	3845.0	3845.0	3806.3	3767.7	3753.1
17.5°	3729.0	3724.1	3675.8	3637.1	3617.7
20°	3603.2	3593.5	3545.2	3482.3	3448.4
22.5°	3463.0	3463.0	3404.9	3322.7	3288.8
25°	3332.4	3313.0	3259.8	3143.7	3056.7
27.5°	3182.4	3153.4	3095.4	2930.9	2829.4
30°	3018.0	3003.5	2921.3	2708.5	2631.1
32.5°	2863.2	2839.0	2752.0	2529.5	2466.6
35°	2703.6	2684.3	2553.7	2360.2	2302.2
37.5°	2544.0	2519.8	2355.4	2200.6	2128.1
40°	2384.4	2355.4	2176.4	2036.2	1958.8
42.5°	2234.5	2195.8	2021.7	1871.7	1784.7
45°	2074.9	2031.3	1857.2	1702.5	1634.7
47.5°	1915.3	1876.6	1717.0	1557.4	1480.0
50°	1746.0	1712.1	1567.0	1407.4	1325.2
52.5°	1605.7	1552.5	1412.3	1252.7	1184.9
55°	1441.3	1397.8	1267.2	1117.2	1059.2
57.5°	1291.4	1247.8	1126.9	986.7	938.3
60°	1151.1	1088.2	986.7	865.7	827.0
62.5°	996.3	948.0	860.9	759.3	807.7
65°	856.1	807.7	730.3	744.8	619.1
67.5°	701.3	677.1	609.4	541.7	522.3
70°	570.7	541.7	517.5	445.0	425.6
72.5°	454.6	425.6	391.8	353.1	338.6
75°	343.4	319.2	299.9	285.4	314.4
77.5°	237.0	227.3	212.8	198.3	193.5
80°	154.8	149.9	145.1	140.3	135.4
82.5°	91.9	91.9	91.9	91.9	91.9
85°	48.4	53.2	58.0	62.9	67.7
87.5°	29.0	29.0	33.9	38.7	43.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)