

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: P563362

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563362
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7286.0 lumens
Efficiency: N/A
Efficacy: 103.8 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

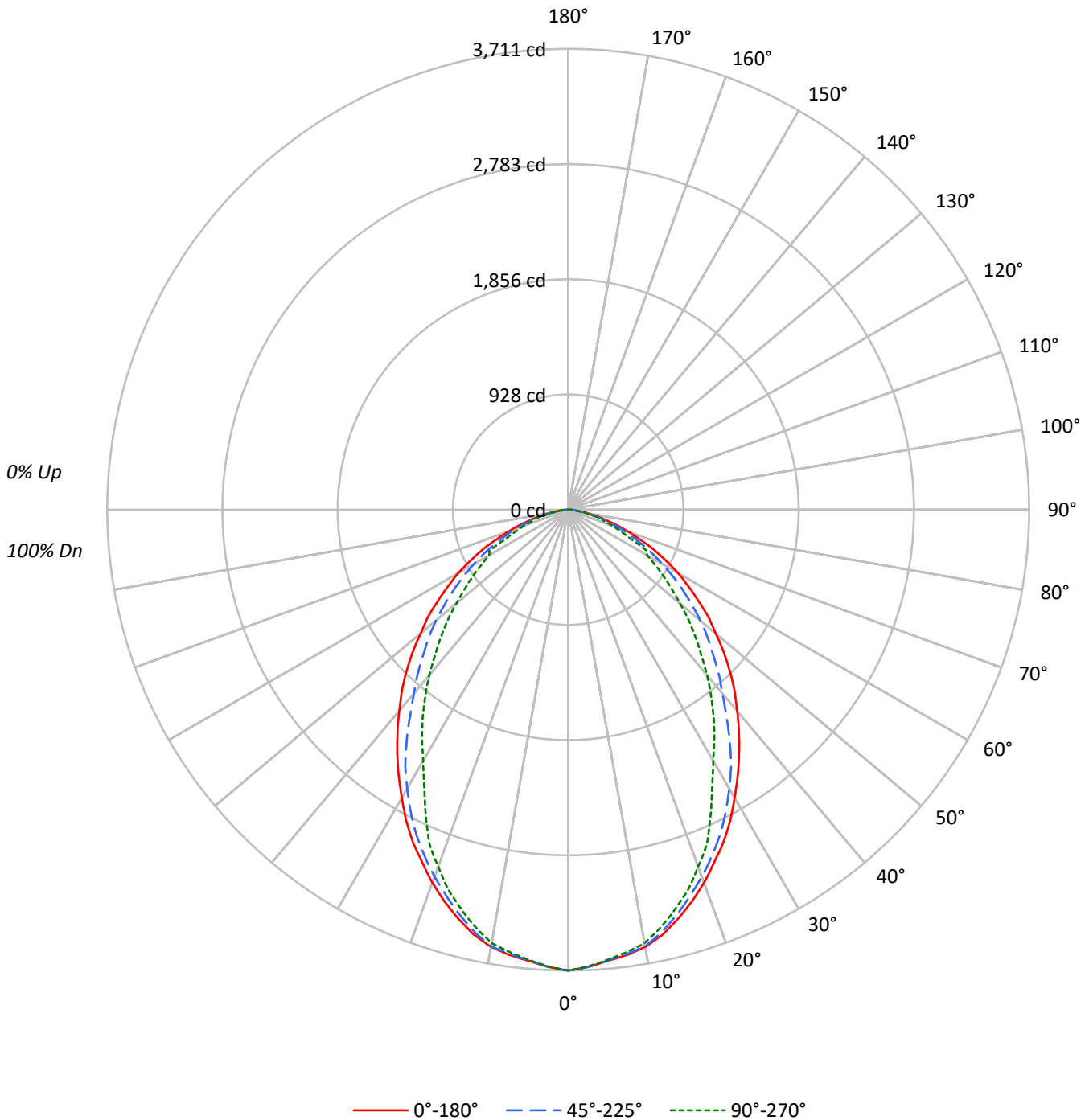
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4994	4994	4994
5°	4926	4920	4914
10°	4883	4877	4842
15°	4751	4704	4638
20°	4577	4503	4380
25°	4389	4293	4026
30°	4160	4026	3626
35°	3940	3721	3355
40°	3715	3391	3052
45°	3503	3135	2759
50°	3242	2910	2461
55°	2999	2637	2204
60°	2748	2355	1974
65°	2418	2063	1748
70°	1992	1806	1485
75°	1583	1383	1450
80°	1064	997	931
85°	662	795	928

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3503 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	345.5	4.7
10°-20°	948.1	13.0
20°-30°	1312.6	18.0
30°-40°	1399.7	19.2
40°-50°	1276.9	17.5
50°-60°	1000.3	13.7
60°-70°	652.0	8.9
70°-80°	288.8	4.0
80°-90°	62.0	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°	2606.3	35.8
0°-40°	4005.9	55.0
0°-60°	6283.2	86.2
0°-90°	7286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3711	3711	3711	3711	3711	
5°	3647	3643	3643	3638	3638	346
15°	3411	3411	3377	3342	3330	959
25°	2956	2939	2892	2789	2712	1357
35°	2398	2381	2266	2094	2042	1499
45°	1841	1802	1648	1510	1450	1418
55°	1279	1240	1124	991	940	1147
65°	759	716	648	661	549	748
75°	305	283	266	253	279	326
85°	43	47	52	56	60	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3711.4	3711.4	3711.4	3711.4	3711.4
2.5°	3685.6	3685.6	3685.6	3681.4	3681.4
5°	3647.0	3642.7	3642.7	3638.5	3638.5
7.5°	3617.0	3612.7	3608.4	3604.1	3595.5
10°	3574.1	3574.1	3569.8	3548.3	3544.1
12.5°	3505.4	3501.2	3484.0	3454.0	3445.4
15°	3411.0	3411.0	3376.7	3342.4	3329.5
17.5°	3308.1	3303.8	3260.9	3226.6	3209.4
20°	3196.5	3187.9	3145.0	3089.3	3059.2
22.5°	3072.1	3072.1	3020.6	2947.7	2917.6
25°	2956.2	2939.1	2891.9	2788.9	2711.7
27.5°	2823.2	2797.5	2746.0	2600.1	2510.0
30°	2677.4	2664.5	2591.5	2402.8	2334.1
32.5°	2540.1	2518.6	2441.4	2244.0	2188.2
35°	2398.5	2381.3	2265.5	2093.8	2042.3
37.5°	2256.9	2235.4	2089.5	1952.2	1887.9
40°	2115.3	2089.5	1930.8	1806.4	1737.7
42.5°	1982.3	1947.9	1793.5	1660.5	1583.2
45°	1840.7	1802.1	1647.6	1510.3	1450.2
47.5°	1699.1	1664.8	1523.2	1381.6	1312.9
50°	1548.9	1518.9	1390.2	1248.6	1175.6
52.5°	1424.5	1377.3	1252.9	1111.3	1051.2
55°	1278.6	1240.0	1124.1	991.1	939.6
57.5°	1145.6	1107.0	999.7	875.3	832.4
60°	1021.2	965.4	875.3	768.0	733.7
62.5°	883.9	841.0	763.7	673.6	716.5
65°	759.4	716.5	647.9	660.8	549.2
67.5°	622.1	600.7	540.6	480.6	463.4
70°	506.3	480.6	459.1	394.7	377.6
72.5°	403.3	377.6	347.5	313.2	300.3
75°	304.6	283.2	266.0	253.1	278.9
77.5°	210.2	201.7	188.8	175.9	171.6
80°	137.3	133.0	128.7	124.4	120.1
82.5°	81.5	81.5	81.5	81.5	81.5
85°	42.9	47.2	51.5	55.8	60.1
87.5°	25.7	25.7	30.0	34.3	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)