

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: P561418

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561418
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-LD4-2HI-40-UNV-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6584.0 lumens
Efficiency: N/A
Efficacy: 76.2 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

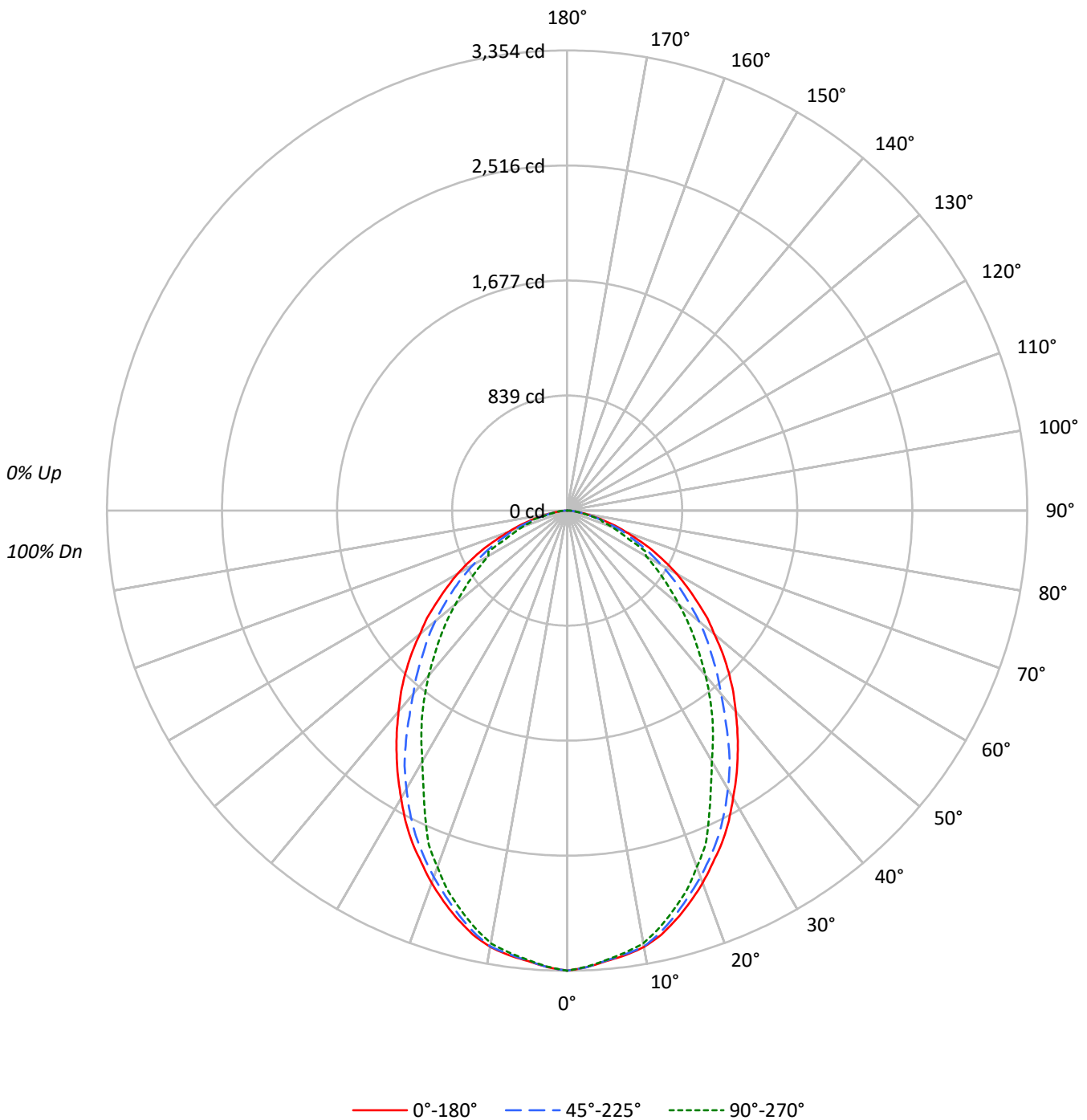
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9025	9025	9025
5°	8902	8892	8881
10°	8825	8815	8751
15°	8587	8501	8382
20°	8272	8139	7917
25°	7932	7759	7276
30°	7518	7277	6554
35°	7120	6725	6063
40°	6715	6129	5516
45°	6330	5666	4987
50°	5860	5259	4448
55°	5421	4766	3984
60°	4966	4257	3568
65°	4370	3728	3160
70°	3600	3264	2685
75°	2862	2499	2620
80°	1923	1802	1683
85°	1198	1436	1677

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6330 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	312.2	4.7
10°-20°	856.8	13.0
20°-30°	1186.2	18.0
30°-40°	1264.8	19.2
40°-50°	1153.9	17.5
50°-60°	904.0	13.7
60°-70°	589.1	8.9
70°-80°	261.0	4.0
80°-90°	56.0	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°	2355.2	35.8
0°-40°	3620.0	55.0
0°-60°	5677.8	86.2
0°-90°	6584.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6584.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3354	3354	3354	3354	3354	
5°	3296	3292	3292	3288	3288	313
15°	3082	3082	3051	3020	3009	867
25°	2671	2656	2613	2520	2450	1226
35°	2167	2152	2047	1892	1846	1355
45°	1663	1628	1489	1365	1310	1281
55°	1155	1120	1016	896	849	1036
65°	686	648	586	597	496	676
75°	275	256	240	229	252	295
85°	39	43	46	50	54	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3353.8	3353.8	3353.8	3353.8	3353.8
2.5°	3330.5	3330.5	3330.5	3326.7	3326.7
5°	3295.6	3291.8	3291.8	3287.9	3287.9
7.5°	3268.5	3264.6	3260.7	3256.9	3249.1
10°	3229.7	3229.7	3225.9	3206.5	3202.6
12.5°	3167.7	3163.8	3148.3	3121.2	3113.4
15°	3082.4	3082.4	3051.4	3020.4	3008.7
17.5°	2989.3	2985.5	2946.7	2915.7	2900.2
20°	2888.5	2880.8	2842.0	2791.6	2764.5
22.5°	2776.1	2776.1	2729.6	2663.7	2636.5
25°	2671.4	2655.9	2613.3	2520.2	2450.4
27.5°	2551.2	2528.0	2481.4	2349.6	2268.2
30°	2419.4	2407.8	2341.8	2171.2	2109.2
32.5°	2295.3	2275.9	2206.1	2027.8	1977.4
35°	2167.4	2151.9	2047.2	1892.1	1845.6
37.5°	2039.4	2020.0	1888.2	1764.1	1706.0
40°	1911.5	1888.2	1744.8	1632.3	1570.3
42.5°	1791.3	1760.3	1620.7	1500.5	1430.7
45°	1663.3	1628.4	1488.9	1364.8	1310.5
47.5°	1535.4	1504.4	1376.4	1248.5	1186.4
50°	1399.7	1372.5	1256.2	1128.3	1062.4
52.5°	1287.2	1244.6	1132.2	1004.2	949.9
55°	1155.4	1120.5	1015.8	895.6	849.1
57.5°	1035.2	1000.3	903.4	791.0	752.2
60°	922.8	872.4	791.0	694.0	663.0
62.5°	798.7	759.9	690.1	608.7	647.5
65°	686.3	647.5	585.5	597.1	496.3
67.5°	562.2	542.8	488.5	434.2	418.7
70°	457.5	434.2	414.9	356.7	341.2
72.5°	364.5	341.2	314.1	283.0	271.4
75°	275.3	255.9	240.4	228.8	252.0
77.5°	190.0	182.2	170.6	159.0	155.1
80°	124.1	120.2	116.3	112.4	108.6
82.5°	73.7	73.7	73.7	73.7	73.7
85°	38.8	42.6	46.5	50.4	54.3
87.5°	23.3	23.3	27.1	31.0	34.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)