

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: P563349

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563349
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-82-86-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7958.0 lumens
Efficiency: N/A
Efficacy: 113.4 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

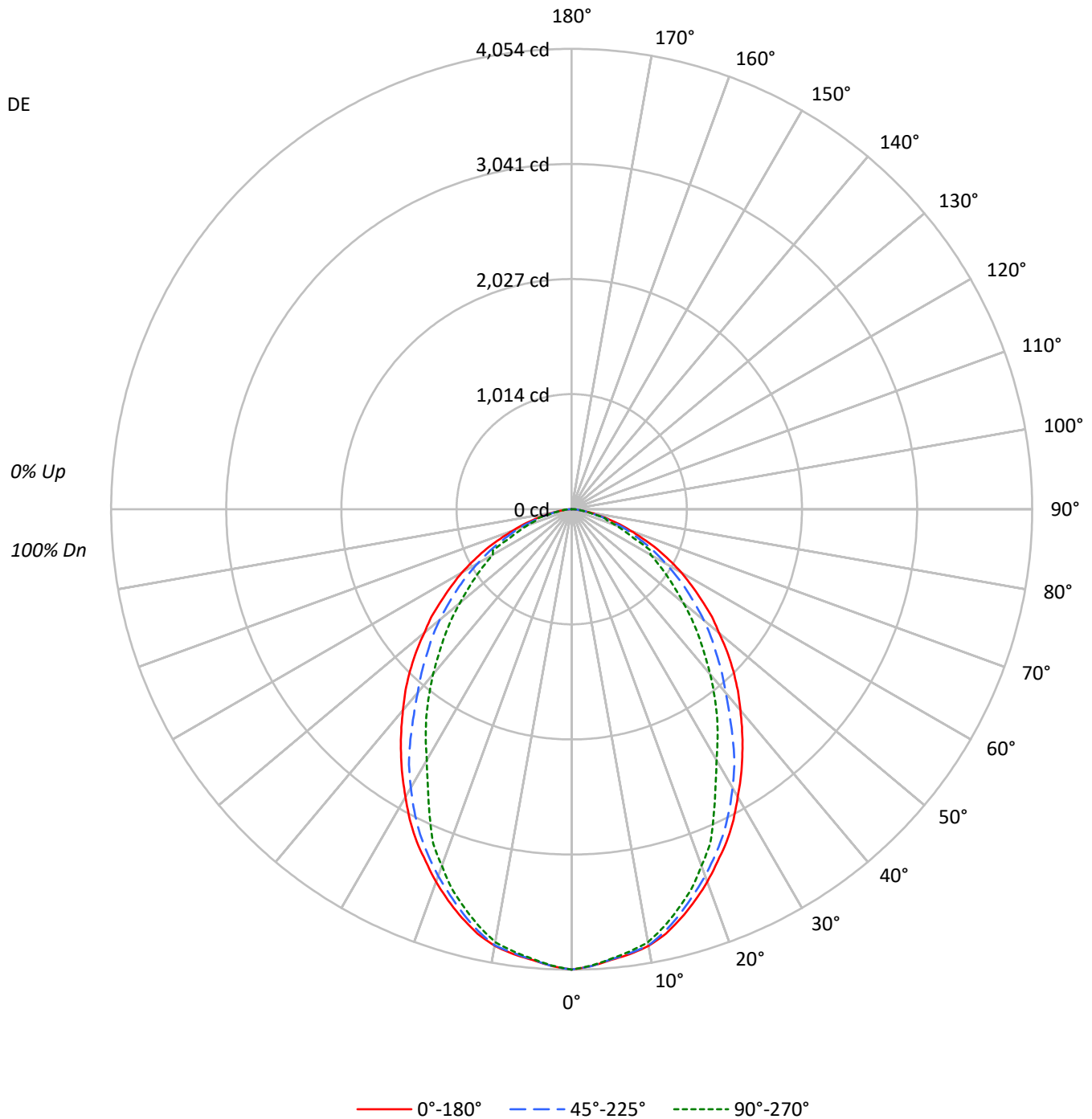
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5454	5454	5454
5°	5380	5374	5367
10°	5333	5327	5289
15°	5190	5137	5066
20°	4999	4919	4784
25°	4794	4689	4397
30°	4543	4398	3961
35°	4303	4064	3664
40°	4058	3704	3334
45°	3825	3424	3014
50°	3541	3178	2688
55°	3276	2880	2407
60°	3002	2573	2157
65°	2641	2253	1910
70°	2175	1972	1622
75°	1730	1511	1583
80°	1162	1089	1017
85°	724	868	1013

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3825 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	377.3	4.7
10°-20°	1035.6	13.0
20°-30°	1433.7	18.0
30°-40°	1528.8	19.2
40°-50°	1394.7	17.5
50°-60°	1092.6	13.7
60°-70°	712.1	8.9
70°-80°	315.5	4.0
80°-90°	67.7	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°	2846.6	35.8
0°-40°	4375.4	55.0
0°-60°	6862.7	86.2
0°-90°	7958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7958.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4054	4054	4054	4054	4054	
5°	3983	3979	3979	3974	3974	378
15°	3726	3726	3688	3651	3637	1047
25°	3229	3210	3159	3046	2962	1482
35°	2620	2601	2474	2287	2231	1638
45°	2010	1968	1800	1650	1584	1549
55°	1396	1354	1228	1082	1026	1253
65°	830	783	708	722	600	817
75°	333	309	291	276	305	357
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4053.7	4053.7	4053.7	4053.7	4053.7
2.5°	4025.6	4025.6	4025.6	4020.9	4020.9
5°	3983.4	3978.7	3978.7	3974.0	3974.0
7.5°	3950.6	3945.9	3941.2	3936.5	3927.2
10°	3903.7	3903.7	3899.0	3875.6	3870.9
12.5°	3828.8	3824.1	3805.3	3772.5	3763.1
15°	3725.7	3725.7	3688.2	3650.7	3636.6
17.5°	3613.2	3608.5	3561.6	3524.1	3505.4
20°	3491.3	3482.0	3435.1	3374.2	3341.4
22.5°	3355.4	3355.4	3299.2	3219.5	3186.7
25°	3228.9	3210.2	3158.6	3046.1	2961.8
27.5°	3083.6	3055.5	2999.3	2839.9	2741.5
30°	2924.3	2910.2	2830.6	2624.4	2549.4
32.5°	2774.3	2750.9	2666.5	2451.0	2390.0
35°	2619.7	2600.9	2474.4	2286.9	2230.7
37.5°	2465.0	2441.6	2282.3	2132.3	2062.0
40°	2310.4	2282.3	2108.9	1973.0	1898.0
42.5°	2165.1	2127.6	1958.9	1813.6	1729.3
45°	2010.4	1968.3	1799.6	1649.6	1584.0
47.5°	1855.8	1818.3	1663.7	1509.0	1434.0
50°	1691.8	1659.0	1518.4	1363.7	1284.1
52.5°	1555.9	1504.3	1368.4	1213.8	1148.2
55°	1396.5	1354.4	1227.8	1082.5	1026.3
57.5°	1251.3	1209.1	1091.9	956.0	909.2
60°	1115.4	1054.4	956.0	838.9	801.4
62.5°	965.4	918.5	834.2	735.8	782.6
65°	829.5	782.6	707.6	721.7	599.9
67.5°	679.5	656.1	590.5	524.9	506.1
70°	553.0	524.9	501.4	431.1	412.4
72.5°	440.5	412.4	379.6	342.1	328.0
75°	332.7	309.3	290.6	276.5	304.6
77.5°	229.6	220.3	206.2	192.1	187.5
80°	150.0	145.3	140.6	135.9	131.2
82.5°	89.0	89.0	89.0	89.0	89.0
85°	46.9	51.5	56.2	60.9	65.6
87.5°	28.1	28.1	32.8	37.5	42.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)