

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: P561380

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561380
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-35-UNV-93-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6620.0 lumens
Efficiency: N/A
Efficacy: 76.6 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

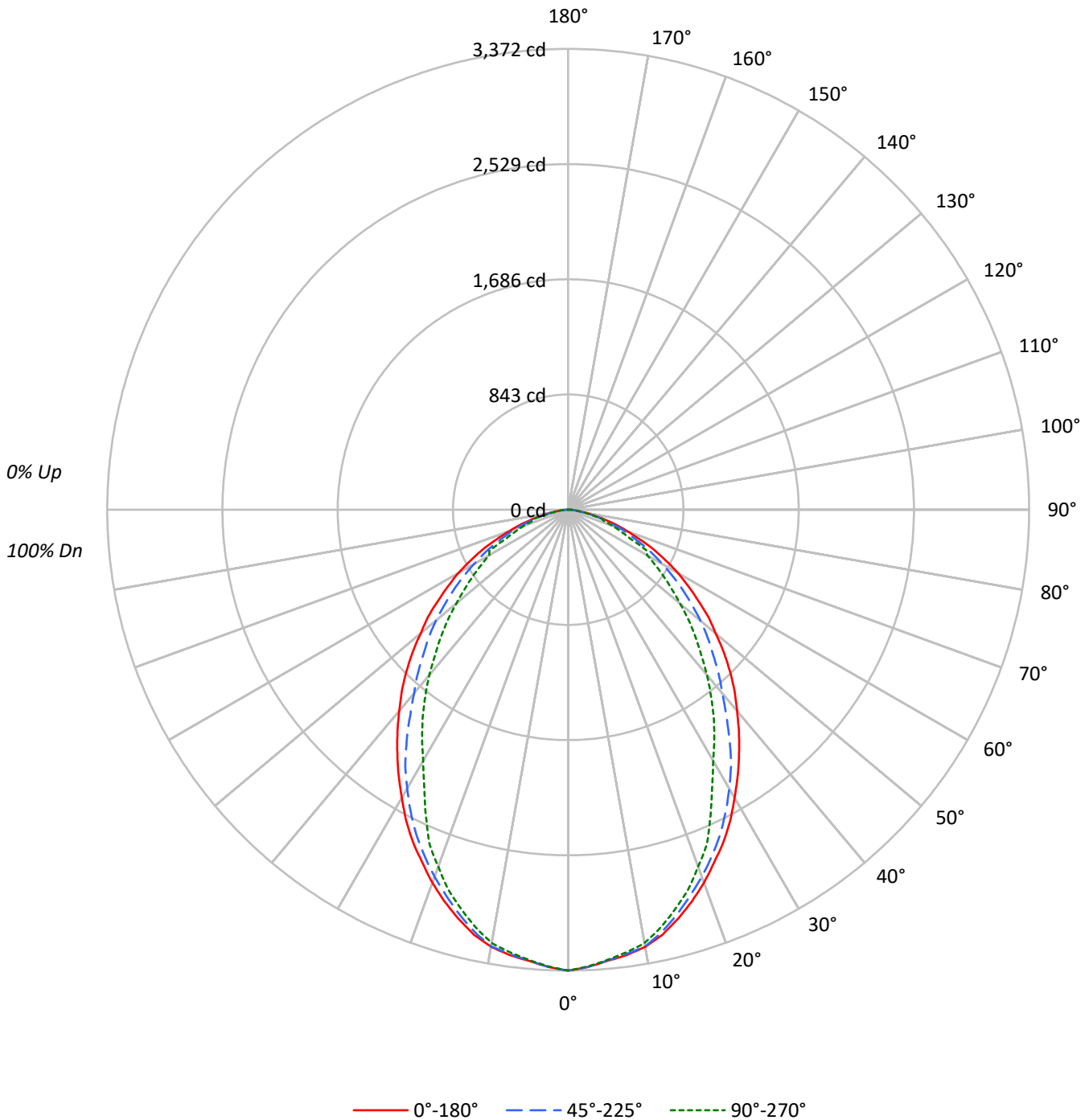
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9074	9074	9074
5°	8951	8941	8930
10°	8873	8863	8799
15°	8634	8547	8428
20°	8317	8183	7960
25°	7975	7801	7315
30°	7559	7317	6590
35°	7159	6762	6096
40°	6751	6163	5546
45°	6365	5697	5015
50°	5892	5288	4472
55°	5450	4792	4006
60°	4993	4280	3588
65°	4394	3748	3177
70°	3619	3282	2699
75°	2878	2513	2635
80°	1932	1813	1692
85°	1204	1445	1686

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6365 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	313.9	4.7
10°-20°	861.5	13.0
20°-30°	1192.7	18.0
30°-40°	1271.7	19.2
40°-50°	1160.2	17.5
50°-60°	908.9	13.7
60°-70°	592.4	8.9
70°-80°	262.5	4.0
80°-90°	56.4	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°	2368.0	35.8
0°-40°	3639.7	55.0
0°-60°	5708.8	86.2
0°-90°	6620.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6620.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3372	3372	3372	3372	3372	
5°	3314	3310	3310	3306	3306	315
15°	3099	3099	3068	3037	3025	871
25°	2686	2670	2628	2534	2464	1233
35°	2179	2164	2058	1902	1856	1362
45°	1672	1637	1497	1372	1318	1288
55°	1162	1127	1021	900	854	1042
65°	690	651	589	600	499	680
75°	277	257	242	230	253	297
85°	39	43	47	51	55	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3372.1	3372.1	3372.1	3372.1	3372.1
2.5°	3348.7	3348.7	3348.7	3344.9	3344.9
5°	3313.7	3309.8	3309.8	3305.9	3305.9
7.5°	3286.4	3282.5	3278.6	3274.7	3266.9
10°	3247.4	3247.4	3243.5	3224.0	3220.1
12.5°	3185.0	3181.1	3165.5	3138.2	3130.4
15°	3099.2	3099.2	3068.1	3036.9	3025.2
17.5°	3005.7	3001.8	2962.8	2931.6	2916.0
20°	2904.3	2896.5	2857.5	2806.9	2779.6
22.5°	2791.3	2791.3	2744.5	2678.2	2650.9
25°	2686.0	2670.4	2627.5	2534.0	2463.8
27.5°	2565.2	2541.8	2495.0	2362.4	2280.6
30°	2432.6	2420.9	2354.7	2183.1	2120.7
32.5°	2307.9	2288.4	2218.2	2038.9	1988.2
35°	2179.2	2163.6	2058.4	1902.4	1855.7
37.5°	2050.6	2031.1	1898.5	1773.8	1715.3
40°	1921.9	1898.5	1754.3	1641.2	1578.9
42.5°	1801.1	1769.9	1629.5	1508.7	1438.5
45°	1672.4	1637.3	1497.0	1372.2	1317.7
47.5°	1543.8	1512.6	1383.9	1255.3	1192.9
50°	1407.3	1380.0	1263.1	1134.4	1068.2
52.5°	1294.3	1251.4	1138.3	1009.7	955.1
55°	1161.7	1126.6	1021.4	900.5	853.8
57.5°	1040.9	1005.8	908.3	795.3	756.3
60°	927.8	877.1	795.3	697.8	666.6
62.5°	803.1	764.1	693.9	612.1	651.0
65°	690.0	651.0	588.7	600.4	499.0
67.5°	565.3	545.8	491.2	436.6	421.0
70°	460.0	436.6	417.1	358.7	343.1
72.5°	366.5	343.1	315.8	284.6	272.9
75°	276.8	257.3	241.7	230.0	253.4
77.5°	191.0	183.2	171.5	159.8	155.9
80°	124.7	120.9	117.0	113.1	109.2
82.5°	74.1	74.1	74.1	74.1	74.1
85°	39.0	42.9	46.8	50.7	54.6
87.5°	23.4	23.4	27.3	31.2	35.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)