

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: P561829

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561829
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-LD4-2STD-40-UNV-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6515.0 lumens
Efficiency: N/A
Efficacy: 97.8 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

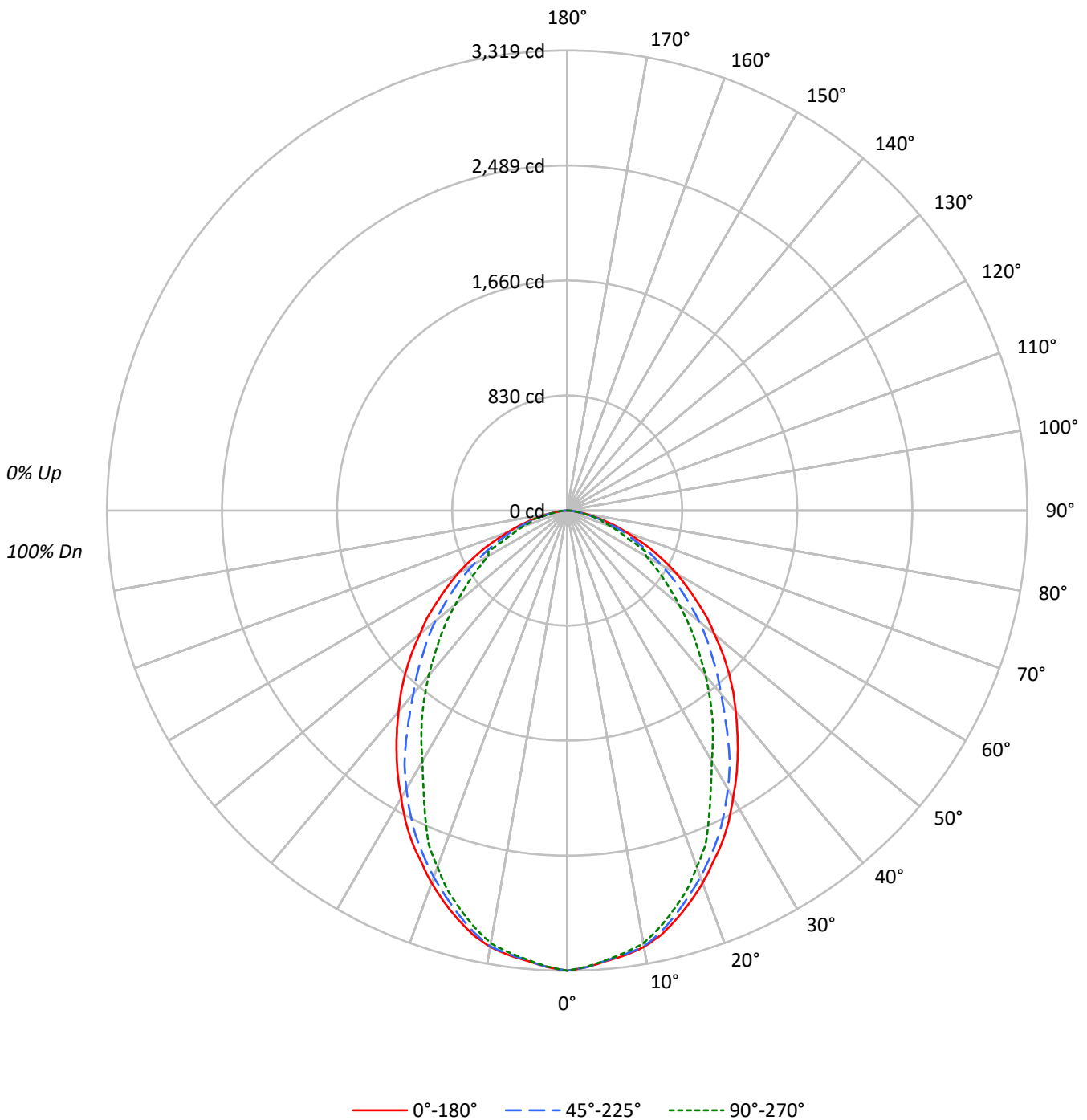
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561829

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561829

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-86-EDD

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°	8931	8931	8931
5°	8809	8799	8788
10°	8733	8722	8659
15°	8497	8412	8294
20°	8185	8053	7834
25°	7849	7678	7199
30°	7439	7200	6485
35°	7046	6655	5999
40°	6644	6065	5458
45°	6264	5607	4935
50°	5798	5204	4401
55°	5364	4716	3942
60°	4914	4212	3531
65°	4324	3689	3127
70°	3562	3230	2656
75°	2832	2473	2593
80°	1903	1784	1664
85°	1186	1420	1658

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6264 cd/sqm



TEST NUMBER: P561829

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.9	4.7
10°-20°	847.8	13.0
20°-30°	1173.7	18.0
30°-40°	1251.5	19.2
40°-50°	1141.8	17.5
50°-60°	894.5	13.7
60°-70°	583.0	8.9
70°-80°	258.3	4.0
80°-90°	55.5	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°	2330.5	35.8
0°-40°	3582.0	55.0
0°-60°	5618.3	86.2
0°-90°	6515.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6515.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3319	3319	3319	3319	3319	
5°	3261	3257	3257	3253	3253	310
15°	3050	3050	3019	2989	2977	857
25°	2643	2628	2586	2494	2425	1214
35°	2145	2129	2026	1872	1826	1341
45°	1646	1611	1473	1350	1297	1268
55°	1143	1109	1005	886	840	1025
65°	679	641	579	591	491	669
75°	272	253	238	226	249	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



TEST NUMBER: P561829

CATALOG NUMBER: FSR-12-4-LD4-2STD-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3318.7	3318.7	3318.7	3318.7	3318.7
2.5°	3295.6	3295.6	3295.6	3291.8	3291.8
5°	3261.1	3257.3	3257.3	3253.4	3253.4
7.5°	3234.2	3230.4	3226.6	3222.7	3215.1
10°	3195.9	3195.9	3192.0	3172.9	3169.0
12.5°	3134.5	3130.7	3115.3	3088.5	3080.8
15°	3050.1	3050.1	3019.4	2988.7	2977.2
17.5°	2958.0	2954.2	2915.8	2885.1	2869.8
20°	2858.3	2850.6	2812.2	2762.3	2735.5
22.5°	2747.0	2747.0	2701.0	2635.7	2608.9
25°	2643.4	2628.1	2585.9	2493.8	2424.7
27.5°	2524.5	2501.5	2455.4	2325.0	2244.4
30°	2394.0	2382.5	2317.3	2148.5	2087.1
32.5°	2271.3	2252.1	2183.0	2006.5	1956.7
35°	2144.7	2129.3	2025.7	1872.3	1826.2
37.5°	2018.0	1998.9	1868.4	1745.7	1688.1
40°	1891.4	1868.4	1726.5	1615.2	1553.8
42.5°	1772.5	1741.8	1603.7	1484.8	1415.7
45°	1645.9	1611.4	1473.3	1350.5	1296.8
47.5°	1519.3	1488.6	1362.0	1235.4	1174.0
50°	1385.0	1358.2	1243.1	1116.4	1051.2
52.5°	1273.7	1231.5	1120.3	993.7	940.0
55°	1143.3	1108.8	1005.2	886.3	840.2
57.5°	1024.4	989.8	893.9	782.7	744.3
60°	913.1	863.2	782.7	686.8	656.1
62.5°	790.3	752.0	682.9	602.3	640.7
65°	679.1	640.7	579.3	590.8	491.1
67.5°	556.3	537.1	483.4	429.7	414.4
70°	452.7	429.7	410.5	353.0	337.6
72.5°	360.6	337.6	310.8	280.1	268.6
75°	272.4	253.2	237.9	226.4	249.4
77.5°	188.0	180.3	168.8	157.3	153.5
80°	122.8	118.9	115.1	111.3	107.4
82.5°	72.9	72.9	72.9	72.9	72.9
85°	38.4	42.2	46.0	49.9	53.7
87.5°	23.0	23.0	26.9	30.7	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)