

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: P562978

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562978
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-LD4-2STD-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: 6505.0 lumens
Efficiency: N/A
Efficacy: 97.7 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

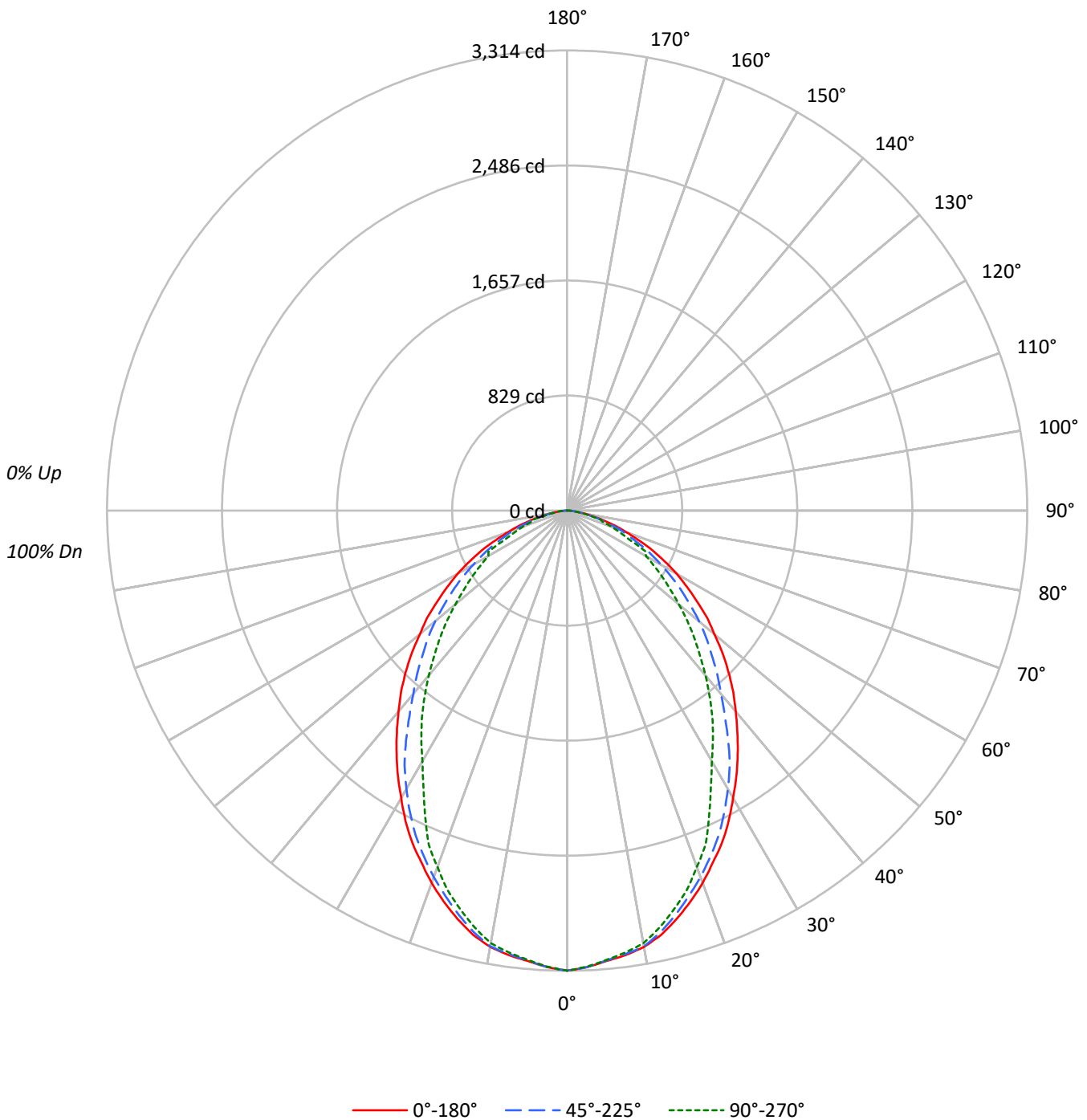
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4458	4458	4458
5°	4398	4393	4387
10°	4360	4354	4323
15°	4242	4199	4141
20°	4086	4020	3911
25°	3918	3833	3594
30°	3714	3595	3238
35°	3517	3322	2995
40°	3317	3028	2725
45°	3127	2799	2464
50°	2895	2598	2197
55°	2678	2354	1968
60°	2453	2103	1763
65°	2159	1841	1561
70°	1778	1613	1326
75°	1414	1235	1294
80°	950	890	831
85°	591	710	827

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3127 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.4	4.7
10°-20°	846.5	13.0
20°-30°	1171.9	18.0
30°-40°	1249.6	19.2
40°-50°	1140.0	17.5
50°-60°	893.1	13.7
60°-70°	582.1	8.9
70°-80°	257.9	4.0
80°-90°	55.4	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°	2326.9	35.8
0°-40°	3576.5	55.0
0°-60°	5609.7	86.2
0°-90°	6505.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6505.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3314	3314	3314	3314	3314	
5°	3256	3252	3252	3248	3248	309
15°	3045	3045	3015	2984	2973	856
25°	2639	2624	2582	2490	2421	1212
35°	2141	2126	2023	1869	1823	1339
45°	1643	1609	1471	1348	1295	1266
55°	1142	1107	1004	885	839	1024
65°	678	640	578	590	490	668
75°	272	253	238	226	249	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3313.6	3313.6	3313.6	3313.6	3313.6
2.5°	3290.6	3290.6	3290.6	3286.7	3286.7
5°	3256.1	3252.3	3252.3	3248.4	3248.4
7.5°	3229.3	3225.5	3221.6	3217.8	3210.1
10°	3191.0	3191.0	3187.1	3168.0	3164.2
12.5°	3129.7	3125.9	3110.5	3083.7	3076.1
15°	3045.4	3045.4	3014.8	2984.1	2972.6
17.5°	2953.5	2949.6	2911.3	2880.7	2865.4
20°	2853.9	2846.2	2807.9	2758.1	2731.3
22.5°	2742.8	2742.8	2696.8	2631.7	2604.9
25°	2639.4	2624.0	2581.9	2490.0	2421.0
27.5°	2520.6	2497.6	2451.7	2321.4	2241.0
30°	2390.4	2378.9	2313.7	2145.2	2083.9
32.5°	2267.8	2248.6	2179.7	2003.5	1953.7
35°	2141.4	2126.0	2022.6	1869.4	1823.4
37.5°	2015.0	1995.8	1865.6	1743.0	1685.5
40°	1888.5	1865.6	1723.8	1612.7	1551.4
42.5°	1769.8	1739.1	1601.2	1482.5	1413.5
45°	1643.4	1608.9	1471.0	1348.4	1294.8
47.5°	1517.0	1486.3	1359.9	1233.5	1172.2
50°	1382.9	1356.1	1241.1	1114.7	1049.6
52.5°	1271.8	1229.7	1118.6	992.2	938.5
55°	1141.6	1107.1	1003.6	884.9	838.9
57.5°	1022.8	988.3	892.6	781.5	743.2
60°	911.7	861.9	781.5	685.7	655.1
62.5°	789.1	750.8	681.9	601.4	639.7
65°	678.0	639.7	578.4	589.9	490.3
67.5°	555.5	536.3	482.7	429.0	413.7
70°	452.0	429.0	409.9	352.4	337.1
72.5°	360.1	337.1	310.3	279.6	268.1
75°	272.0	252.8	237.5	226.0	249.0
77.5°	187.7	180.0	168.6	157.1	153.2
80°	122.6	118.8	114.9	111.1	107.3
82.5°	72.8	72.8	72.8	72.8	72.8
85°	38.3	42.1	46.0	49.8	53.6
87.5°	23.0	23.0	26.8	30.6	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)