

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: P562976

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562976
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-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6637.0 lumens
Efficiency: N/A
Efficacy: 99.7 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

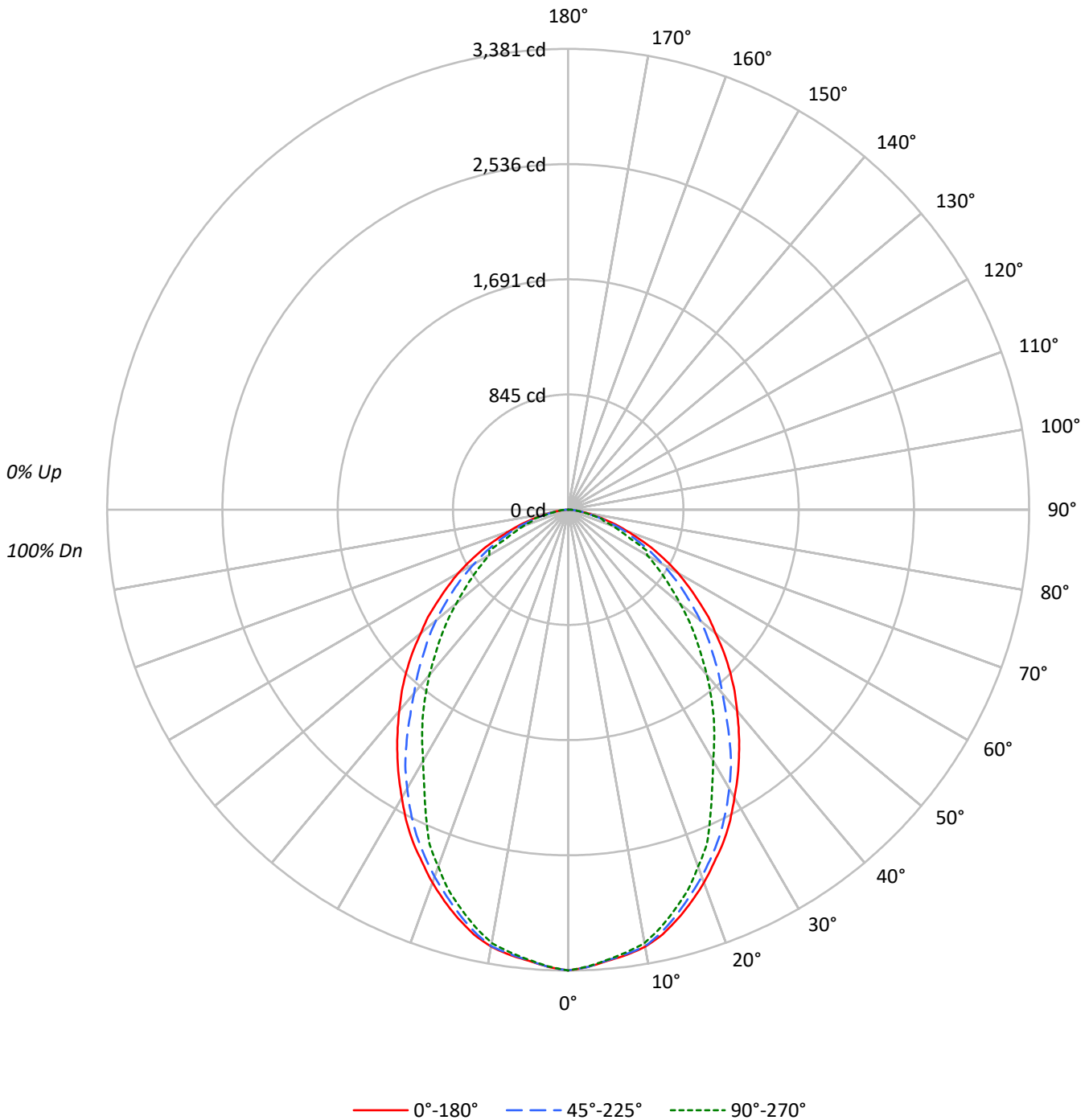
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4549	4549	4549
5°	4487	4482	4477
10°	4448	4443	4411
15°	4328	4285	4225
20°	4169	4102	3990
25°	3998	3911	3667
30°	3789	3668	3303
35°	3589	3390	3056
40°	3384	3089	2780
45°	3190	2856	2514
50°	2953	2651	2242
55°	2732	2402	2008
60°	2503	2146	1798
65°	2202	1879	1593
70°	1814	1645	1353
75°	1443	1260	1320
80°	969	909	848
85°	604	724	844

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3190 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	314.7	4.7
10°-20°	863.7	13.0
20°-30°	1195.7	18.0
30°-40°	1275.0	19.2
40°-50°	1163.2	17.5
50°-60°	911.2	13.7
60°-70°	593.9	8.9
70°-80°	263.1	4.0
80°-90°	56.5	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°	2374.1	35.8
0°-40°	3649.1	55.0
0°-60°	5723.5	86.2
0°-90°	6637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3381	3381	3381	3381	3381	
5°	3322	3318	3318	3314	3314	315
15°	3107	3107	3076	3045	3033	874
25°	2693	2677	2634	2540	2470	1236
35°	2185	2169	2064	1907	1860	1366
45°	1677	1642	1501	1376	1321	1292
55°	1165	1130	1024	903	856	1045
65°	692	653	590	602	500	682
75°	278	258	242	231	254	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°	3380.8	3380.8	3380.8	3380.8	3380.8
2.5°	3357.3	3357.3	3357.3	3353.4	3353.4
5°	3322.2	3318.3	3318.3	3314.4	3314.4
7.5°	3294.8	3290.9	3287.0	3283.1	3275.3
10°	3255.7	3255.7	3251.8	3232.3	3228.4
12.5°	3193.2	3189.3	3173.7	3146.3	3138.5
15°	3107.2	3107.2	3075.9	3044.7	3032.9
17.5°	3013.4	3009.5	2970.4	2939.1	2923.5
20°	2911.8	2904.0	2864.9	2814.1	2786.7
22.5°	2798.4	2798.4	2751.5	2685.1	2657.7
25°	2692.9	2677.3	2634.3	2540.5	2470.1
27.5°	2571.8	2548.3	2501.4	2368.5	2286.4
30°	2438.9	2427.1	2360.7	2188.7	2126.2
32.5°	2313.8	2294.3	2223.9	2044.1	1993.3
35°	2184.8	2169.2	2063.7	1907.3	1860.4
37.5°	2055.8	2036.3	1903.4	1778.3	1719.7
40°	1926.9	1903.4	1758.8	1645.5	1582.9
42.5°	1805.7	1774.4	1633.7	1512.6	1442.2
45°	1676.7	1641.5	1500.8	1375.8	1321.1
47.5°	1547.7	1516.5	1387.5	1258.5	1196.0
50°	1410.9	1383.6	1266.3	1137.4	1070.9
52.5°	1297.6	1254.6	1141.3	1012.3	957.6
55°	1164.7	1129.5	1024.0	902.8	855.9
57.5°	1043.6	1008.4	910.7	797.3	758.2
60°	930.2	879.4	797.3	699.6	668.3
62.5°	805.1	766.1	695.7	613.6	652.7
65°	691.8	652.7	590.2	601.9	500.3
67.5°	566.7	547.2	492.5	437.7	422.1
70°	461.2	437.7	418.2	359.6	343.9
72.5°	367.4	343.9	316.6	285.3	273.6
75°	277.5	258.0	242.3	230.6	254.0
77.5°	191.5	183.7	172.0	160.2	156.3
80°	125.1	121.2	117.3	113.3	109.4
82.5°	74.3	74.3	74.3	74.3	74.3
85°	39.1	43.0	46.9	50.8	54.7
87.5°	23.5	23.5	27.4	31.3	35.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)