

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P313966

Luminaire Tested: **24FCZ2-45-UNV-L83050-CA08-W2A-U-3500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P313966
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-45-UNV-L83050-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4144.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

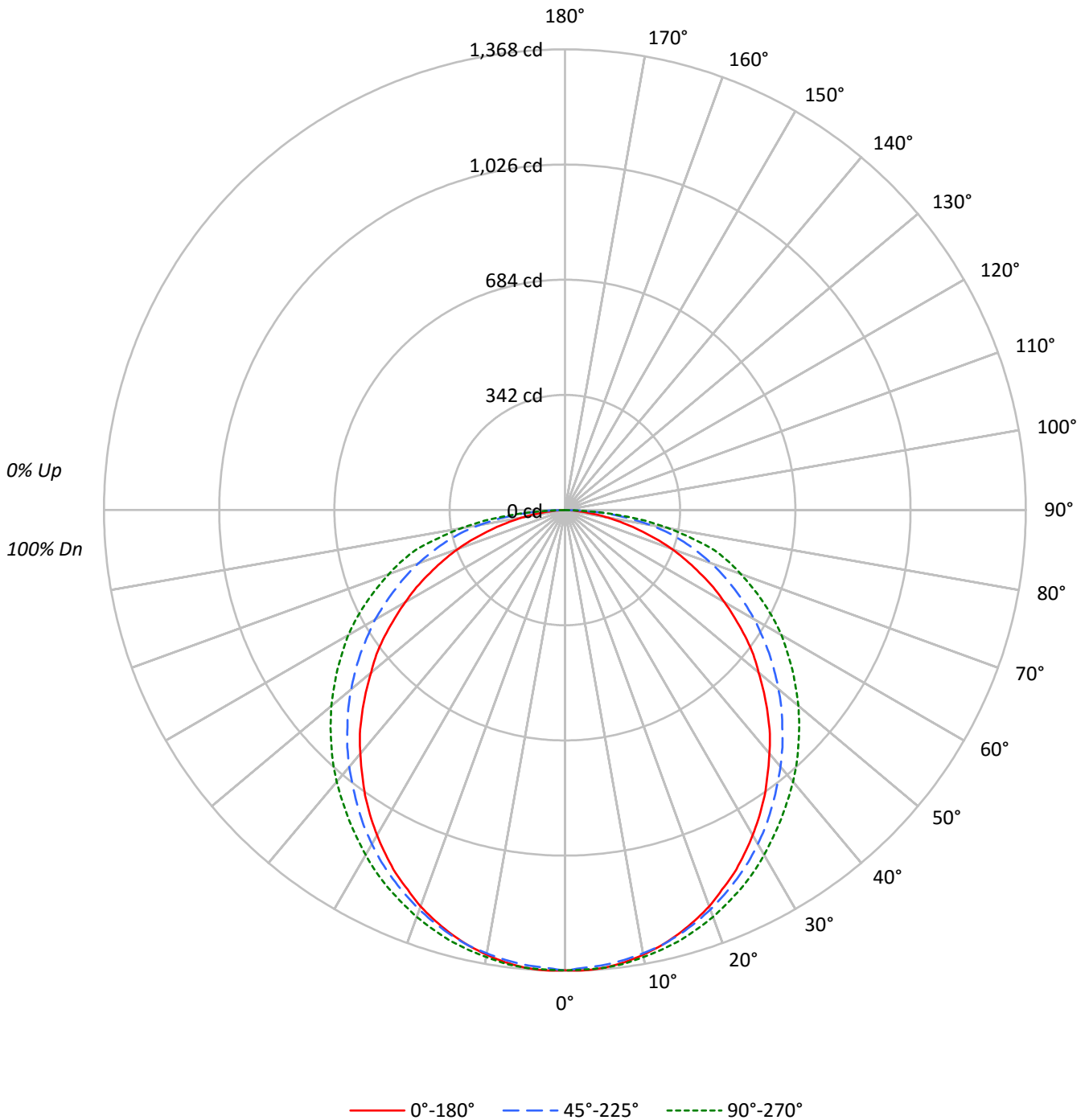
Input Watts (W): 37.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82				
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67				
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56				
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47				
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41				
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28				
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1839	1839	1839
5°	1842	1831	1842
10°	1831	1826	1841
15°	1816	1819	1842
20°	1793	1807	1841
25°	1766	1794	1839
30°	1732	1779	1837
35°	1698	1761	1838
40°	1659	1748	1850
45°	1619	1737	1865
50°	1571	1733	1894
55°	1532	1735	1932
60°	1473	1750	1998
65°	1405	1769	2070
70°	1330	1823	2185
75°	1186	1901	2387
80°	1012	2014	2440
85°	721	1995	2334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.3	3.1
10°-20°	369.8	8.9
20°-30°	558.6	13.5
30°-40°	673.2	16.2
40°-50°	706.8	17.1
50°-60°	661.2	16.0
60°-70°	546.1	13.2
70°-80°	372.1	9.0
80°-90°	126.9	3.1
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°	1057.7	25.5
0°-40°	1731.0	41.8
0°-60°	3099.0	74.8
0°-90°	4144.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4144.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1364	1362	1356	1364	1364	129
15°	1303	1305	1306	1320	1323	367
25°	1189	1195	1208	1232	1239	547
35°	1034	1045	1072	1108	1119	646
45°	851	869	913	962	980	656
55°	653	679	740	800	824	583
65°	441	478	556	626	650	438
75°	228	280	366	434	459	243
85°	47	92	129	146	151	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1366.7	1366.7	1366.7	1366.7	1366.7
2.5°	1368.0	1366.7	1359.8	1366.7	1365.3
5°	1363.9	1362.5	1355.7	1363.9	1363.9
7.5°	1354.3	1354.3	1347.4	1357.0	1358.4
10°	1340.5	1340.5	1336.4	1347.4	1347.4
12.5°	1324.0	1324.0	1324.0	1335.0	1336.4
15°	1303.4	1304.8	1306.2	1319.9	1322.7
17.5°	1278.7	1281.4	1285.5	1302.0	1304.8
20°	1252.5	1255.3	1262.2	1281.4	1285.5
22.5°	1219.5	1226.4	1236.0	1258.0	1262.2
25°	1189.3	1194.8	1208.5	1231.9	1238.8
27.5°	1152.2	1160.4	1178.3	1203.0	1212.7
30°	1115.0	1123.3	1145.3	1174.2	1182.4
32.5°	1075.2	1087.5	1110.9	1141.2	1150.8
35°	1033.9	1044.9	1072.4	1108.2	1119.2
37.5°	988.6	1003.7	1033.9	1072.4	1086.2
40°	944.6	961.1	995.4	1036.7	1053.2
42.5°	900.6	917.1	955.6	1002.3	1018.8
45°	851.1	868.9	912.9	962.4	980.3
47.5°	801.6	823.6	871.7	923.9	943.2
50°	750.7	775.4	827.7	882.7	904.7
52.5°	705.3	728.7	783.7	842.8	863.4
55°	653.1	679.2	739.7	800.2	823.6
57.5°	599.5	628.3	693.0	758.9	782.3
60°	547.2	578.8	650.3	716.3	742.4
62.5°	496.3	528.0	602.2	671.0	697.1
65°	441.3	478.5	555.5	625.6	650.3
67.5°	389.1	429.0	510.1	578.8	603.6
70°	338.2	376.7	463.3	530.7	555.5
72.5°	283.2	327.2	413.8	484.0	510.1
75°	228.2	280.5	365.7	434.5	459.2
77.5°	177.4	231.0	316.2	372.6	385.0
80°	130.6	185.6	259.9	299.7	314.9
82.5°	83.9	138.9	198.0	226.9	239.2
85°	46.7	92.1	129.2	145.7	151.2
87.5°	19.2	39.9	52.2	59.1	59.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)