

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: P313293

Luminaire Tested: **24FCZ2-55HE-UNV-L83050-HRP-CA08-W2A-U-4500K**

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: P313293
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-55HE-UNV-L83050-HRP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 4178.0 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

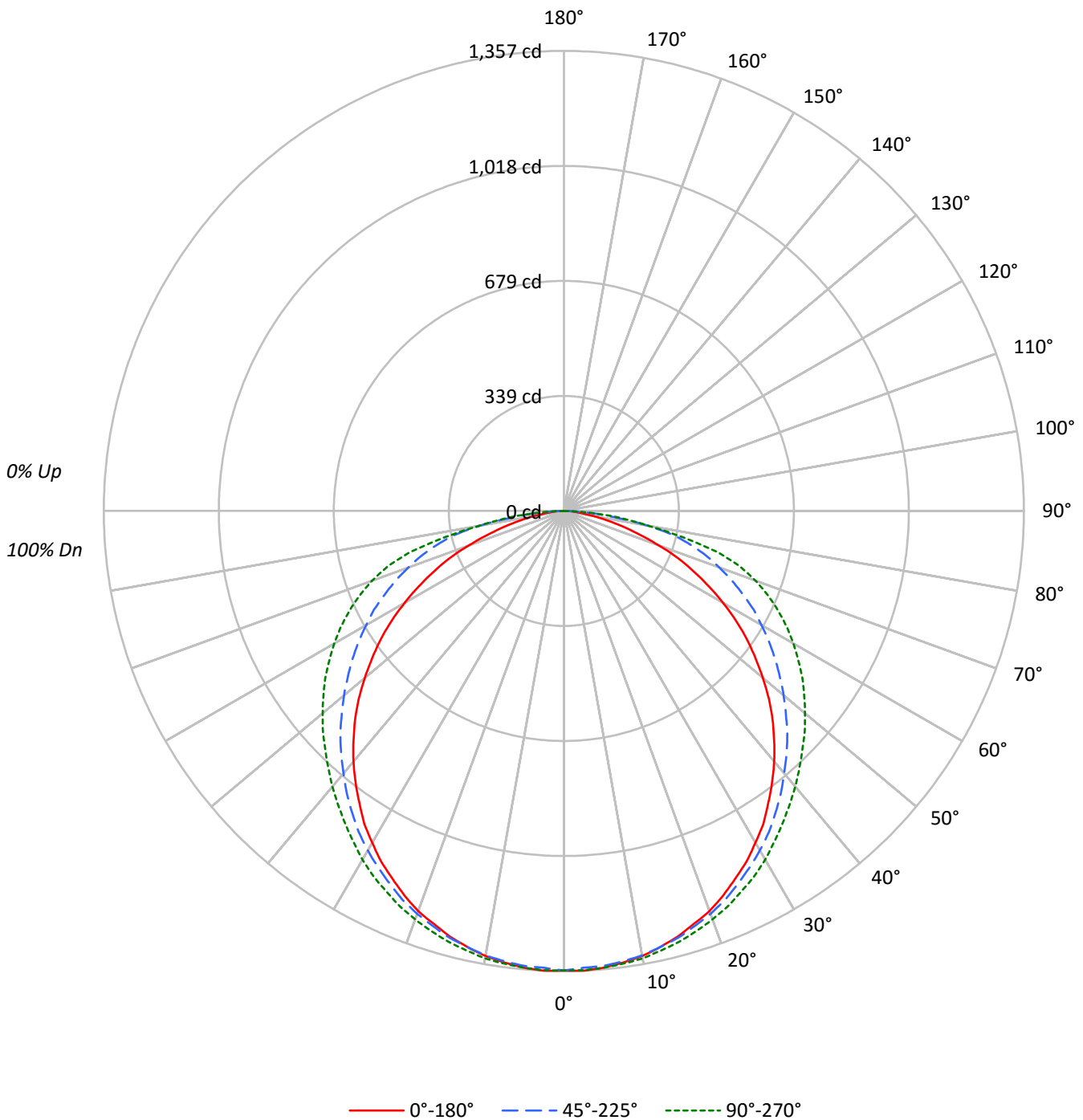
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1824	1824	1824
5°	1826	1819	1826
10°	1821	1819	1830
15°	1810	1815	1832
20°	1798	1811	1836
25°	1776	1802	1839
30°	1755	1796	1845
35°	1727	1787	1847
40°	1696	1776	1865
45°	1658	1774	1894
50°	1604	1772	1944
55°	1547	1785	2015
60°	1459	1812	2104
65°	1348	1855	2222
70°	1177	1920	2367
75°	955	2019	2446
80°	705	1979	1979
85°	540	1459	1647



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.4	3.1
10°-20°	368.8	8.8
20°-30°	561.4	13.4
30°-40°	681.7	16.3
40°-50°	720.2	17.2
50°-60°	679.6	16.3
60°-70°	565.0	13.5
70°-80°	371.7	8.9
80°-90°	101.3	2.4
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°	1058.6	25.3
0°-40°	1740.2	41.7
0°-60°	3139.9	75.2
0°-90°	4178.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4178.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1356	1356	1356	1356	1356	
5°	1352	1352	1347	1352	1352	128
15°	1300	1301	1303	1315	1315	367
25°	1196	1203	1214	1235	1238	552
35°	1051	1064	1088	1116	1125	658
45°	871	888	932	978	995	671
55°	659	687	761	833	859	587
65°	423	472	582	668	698	418
75°	184	268	388	460	470	198
85°	35	77	94	105	107	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1355.6	1355.6	1355.6	1355.6	1355.6
2.5°	1357.3	1355.6	1348.6	1355.6	1355.6
5°	1352.1	1352.1	1346.8	1352.1	1352.1
7.5°	1343.3	1343.3	1339.8	1346.8	1346.8
10°	1332.8	1332.8	1331.1	1339.8	1339.8
12.5°	1317.1	1318.8	1317.1	1327.6	1327.6
15°	1299.6	1301.3	1303.1	1315.3	1315.3
17.5°	1276.8	1280.3	1283.8	1297.8	1299.6
20°	1255.9	1257.6	1264.6	1280.3	1282.1
22.5°	1227.9	1233.1	1241.9	1257.6	1262.9
25°	1196.4	1203.4	1213.9	1234.9	1238.4
27.5°	1166.7	1171.9	1185.9	1208.6	1215.6
30°	1129.9	1138.7	1156.2	1178.9	1187.6
32.5°	1094.9	1103.7	1124.7	1149.2	1156.2
35°	1051.2	1063.5	1087.9	1115.9	1124.7
37.5°	1009.2	1021.5	1051.2	1082.7	1093.2
40°	965.5	979.5	1011.0	1047.7	1061.7
42.5°	918.3	937.5	972.5	1012.7	1028.5
45°	871.1	888.5	932.3	977.7	995.2
47.5°	820.3	841.3	888.5	942.8	963.8
50°	766.1	792.3	846.6	906.0	928.8
52.5°	711.9	741.6	802.8	869.3	893.8
55°	659.4	687.4	760.9	832.6	858.8
57.5°	601.7	636.7	717.1	794.1	820.3
60°	542.2	580.7	673.4	753.9	781.8
62.5°	482.8	526.5	631.4	711.9	741.6
65°	423.3	472.3	582.5	668.2	697.9
67.5°	365.6	419.8	537.0	622.7	652.4
70°	299.1	367.3	488.0	572.0	601.7
72.5°	237.9	316.6	440.8	519.5	545.7
75°	183.7	267.6	388.3	460.0	470.5
77.5°	134.7	218.6	334.1	358.6	360.3
80°	91.0	174.9	255.4	251.9	255.4
82.5°	59.5	131.2	160.9	180.2	181.9
85°	35.0	77.0	94.5	104.9	106.7
87.5°	17.5	26.2	33.2	35.0	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)