

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: P313964

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP250-W2A-U-5000K**

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: P313964
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: 24FCZ2-45HE-UNV-L83050-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5000K 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: 4034.0 lumens
Efficiency: N/A
Efficacy: 113.6 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

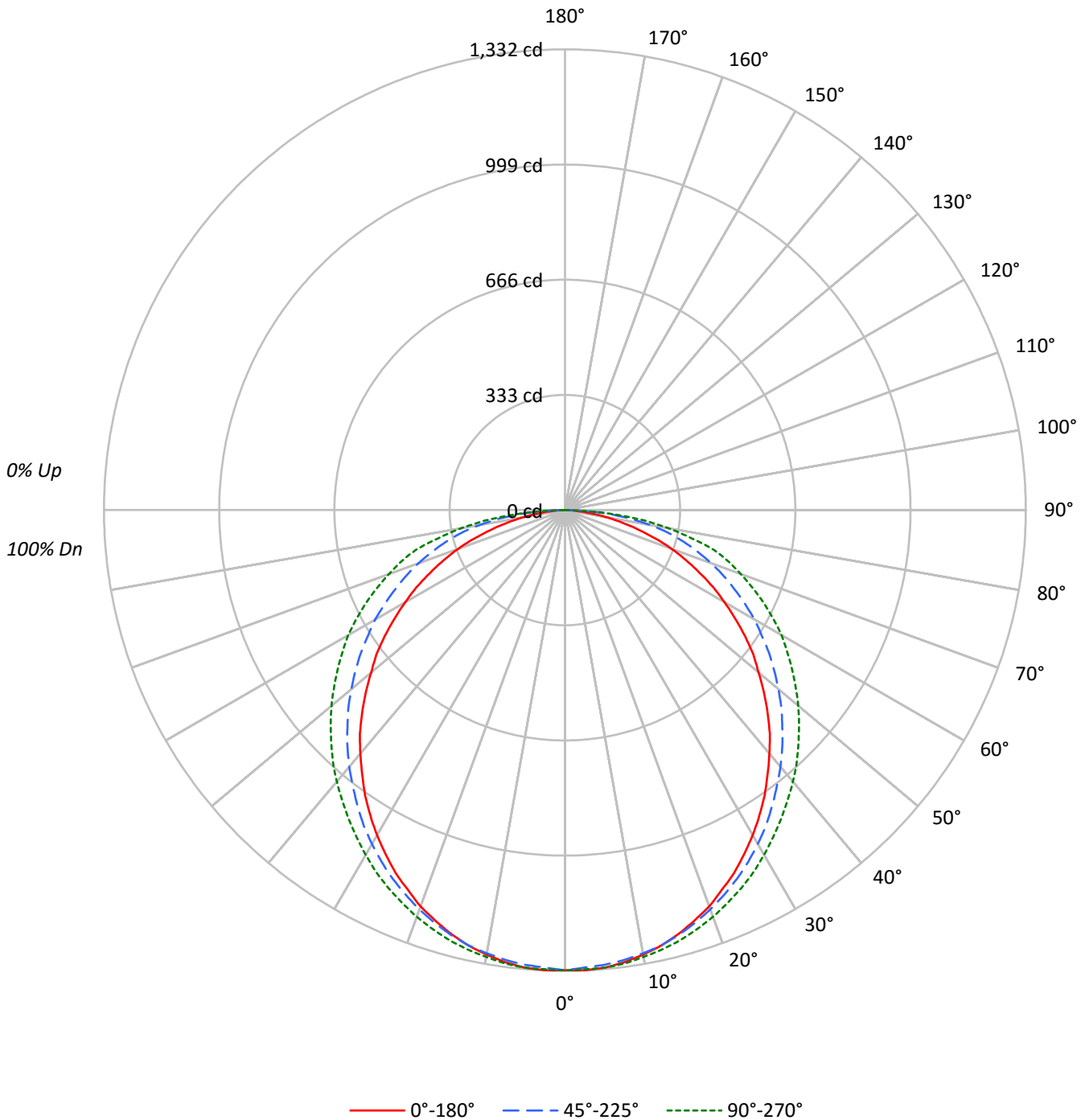
Input Watts (W): 35.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1790	1790	1790
5°	1793	1782	1793
10°	1783	1777	1792
15°	1767	1771	1793
20°	1746	1759	1792
25°	1719	1747	1790
30°	1686	1732	1788
35°	1653	1715	1790
40°	1615	1702	1801
45°	1576	1691	1816
50°	1530	1686	1843
55°	1491	1689	1881
60°	1433	1704	1945
65°	1368	1721	2016
70°	1295	1774	2127
75°	1155	1851	2324
80°	985	1960	2375
85°	702	1942	2272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	3.1
10°-20°	360.0	8.9
20°-30°	543.8	13.5
30°-40°	655.4	16.2
40°-50°	688.0	17.1
50°-60°	643.7	16.0
60°-70°	531.6	13.2
70°-80°	362.2	9.0
80°-90°	123.5	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°	1029.7	25.5
0°-40°	1685.0	41.8
0°-60°	3016.7	74.8
0°-90°	4034.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4034.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1328	1326	1320	1328	1328	126
15°	1269	1270	1272	1285	1288	358
25°	1158	1163	1176	1199	1206	533
35°	1006	1017	1044	1079	1090	629
45°	828	846	889	937	954	639
55°	636	661	720	779	802	567
65°	430	466	541	609	633	426
75°	222	273	356	423	447	237
85°	46	90	126	142	147	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1330.4	1330.4	1330.4	1330.4	1330.4
2.5°	1331.7	1330.4	1323.7	1330.4	1329.0
5°	1327.7	1326.4	1319.7	1327.7	1327.7
7.5°	1318.3	1318.3	1311.6	1321.0	1322.3
10°	1304.9	1304.9	1300.9	1311.6	1311.6
12.5°	1288.9	1288.9	1288.9	1299.6	1300.9
15°	1268.8	1270.1	1271.5	1284.9	1287.5
17.5°	1244.7	1247.4	1251.4	1267.5	1270.1
20°	1219.3	1222.0	1228.7	1247.4	1251.4
22.5°	1187.2	1193.9	1203.2	1224.6	1228.7
25°	1157.7	1163.1	1176.5	1199.2	1205.9
27.5°	1121.6	1129.6	1147.0	1171.1	1180.5
30°	1085.4	1093.5	1114.9	1143.0	1151.0
32.5°	1046.6	1058.7	1081.4	1110.9	1120.2
35°	1006.5	1017.2	1044.0	1078.8	1089.5
37.5°	962.3	977.0	1006.5	1044.0	1057.3
40°	919.5	935.5	969.0	1009.2	1025.2
42.5°	876.7	892.7	930.2	975.7	991.8
45°	828.5	845.9	888.7	936.9	954.3
47.5°	780.3	801.7	848.6	899.4	918.1
50°	730.8	754.9	805.7	859.3	880.7
52.5°	686.6	709.4	762.9	820.4	840.5
55°	635.7	661.2	720.1	779.0	801.7
57.5°	583.5	611.7	674.6	738.8	761.6
60°	532.7	563.5	633.1	697.3	722.7
62.5°	483.2	513.9	586.2	653.1	678.6
65°	429.6	465.8	540.7	609.0	633.1
67.5°	378.8	417.6	496.5	563.5	587.6
70°	329.2	366.7	451.0	516.6	540.7
72.5°	275.7	318.5	402.9	471.1	496.5
75°	222.2	273.0	356.0	422.9	447.0
77.5°	172.7	224.9	307.8	362.7	374.8
80°	127.1	180.7	253.0	291.8	306.5
82.5°	81.6	135.2	192.7	220.8	232.9
85°	45.5	89.7	125.8	141.9	147.2
87.5°	18.7	38.8	50.9	57.6	57.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)