

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: P313962

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP250-W2A-U-4000K**

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: P313962
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-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 4000K 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: 3996.0 lumens
Efficiency: N/A
Efficacy: 115.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

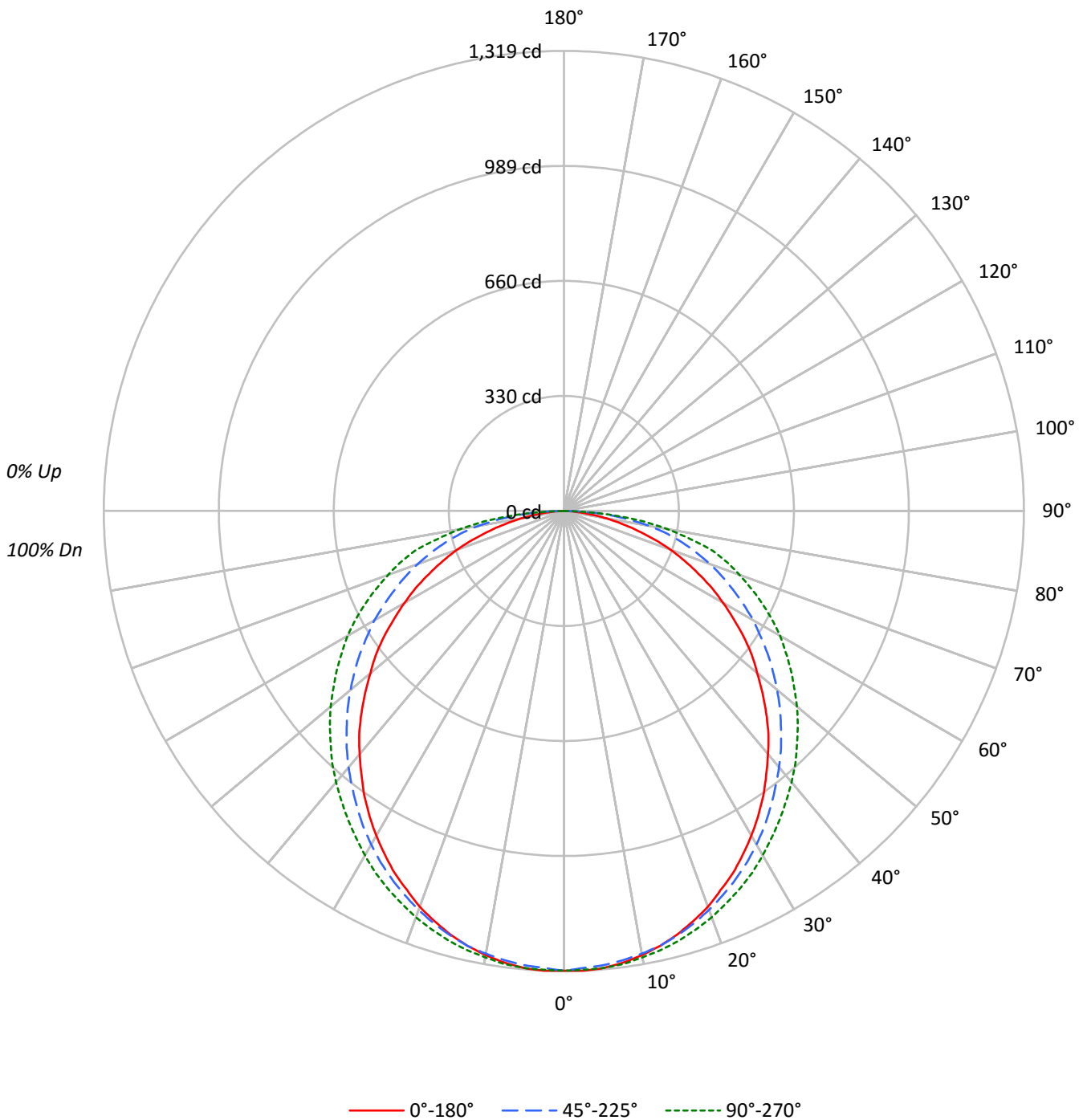
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1773	1773	1773
5°	1776	1766	1776
10°	1766	1761	1775
15°	1751	1754	1777
20°	1729	1743	1775
25°	1703	1730	1773
30°	1670	1716	1771
35°	1638	1699	1773
40°	1600	1686	1784
45°	1562	1675	1799
50°	1515	1671	1826
55°	1477	1673	1863
60°	1420	1688	1926
65°	1355	1705	1996
70°	1283	1758	2107
75°	1144	1834	2302
80°	976	1942	2352
85°	696	1924	2251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.7	3.1
10°-20°	356.6	8.9
20°-30°	538.6	13.5
30°-40°	649.2	16.2
40°-50°	681.5	17.1
50°-60°	637.6	16.0
60°-70°	526.5	13.2
70°-80°	358.8	9.0
80°-90°	122.4	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°	1020.0	25.5
0°-40°	1669.2	41.8
0°-60°	2988.3	74.8
0°-90°	3996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3996.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1318	1318	1318	1318	1318	
5°	1315	1314	1307	1315	1315	125
15°	1257	1258	1260	1273	1275	354
25°	1147	1152	1165	1188	1194	528
35°	997	1008	1034	1069	1079	623
45°	821	838	880	928	945	633
55°	630	655	713	772	794	562
65°	426	461	536	603	627	422
75°	220	270	353	419	443	235
85°	45	89	125	140	146	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1317.8	1317.8	1317.8	1317.8	1317.8
2.5°	1319.2	1317.8	1311.2	1317.8	1316.5
5°	1315.2	1313.9	1307.2	1315.2	1315.2
7.5°	1305.9	1305.9	1299.3	1308.6	1309.9
10°	1292.7	1292.7	1288.7	1299.3	1299.3
12.5°	1276.7	1276.7	1276.7	1287.4	1288.7
15°	1256.9	1258.2	1259.5	1272.8	1275.4
17.5°	1233.0	1235.6	1239.6	1255.5	1258.2
20°	1207.8	1210.5	1217.1	1235.6	1239.6
22.5°	1176.0	1182.6	1191.9	1213.1	1217.1
25°	1146.8	1152.1	1165.4	1187.9	1194.5
27.5°	1111.0	1119.0	1136.2	1160.1	1169.4
30°	1075.2	1083.2	1104.4	1132.2	1140.2
32.5°	1036.8	1048.7	1071.2	1100.4	1109.7
35°	997.0	1007.6	1034.1	1068.6	1079.2
37.5°	953.3	967.8	997.0	1034.1	1047.4
40°	910.8	926.7	959.9	999.7	1015.6
42.5°	868.4	884.3	921.4	966.5	982.4
45°	820.7	837.9	880.3	928.1	945.3
47.5°	772.9	794.2	840.6	890.9	909.5
50°	723.9	747.8	798.1	851.2	872.4
52.5°	680.1	702.7	755.7	812.7	832.6
55°	629.8	654.9	713.3	771.6	794.2
57.5°	578.0	605.9	668.2	731.8	754.4
60°	527.7	558.2	627.1	690.7	715.9
62.5°	478.6	509.1	580.7	647.0	672.2
65°	425.6	461.4	535.6	603.2	627.1
67.5°	375.2	413.6	491.9	558.2	582.0
70°	326.1	363.3	446.8	511.8	535.6
72.5°	273.1	315.5	399.1	466.7	491.9
75°	220.1	270.5	352.7	419.0	442.8
77.5°	171.0	222.7	304.9	359.3	371.2
80°	126.0	179.0	250.6	289.0	303.6
82.5°	80.9	133.9	190.9	218.8	230.7
85°	45.1	88.8	124.6	140.5	145.8
87.5°	18.6	38.4	50.4	57.0	57.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)