

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: P313940

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CA08-W2A-U-3000K**

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: P313940
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-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 3875.0 lumens
Efficiency: N/A
Efficacy: 115.0 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

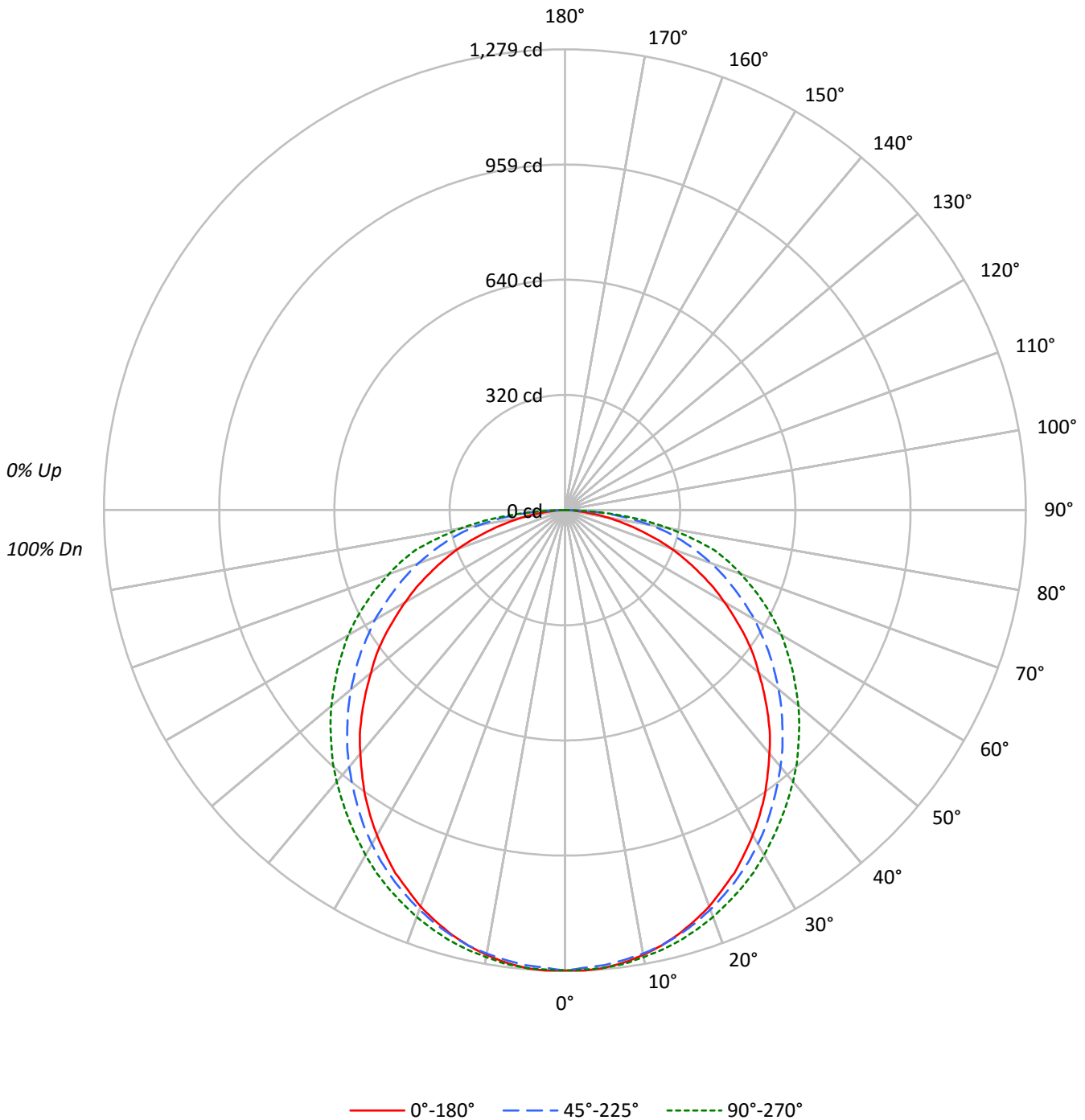
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1719	1719	1719
5°	1723	1712	1723
10°	1713	1707	1721
15°	1698	1701	1723
20°	1677	1690	1721
25°	1651	1678	1720
30°	1620	1664	1718
35°	1588	1647	1719
40°	1551	1635	1730
45°	1514	1624	1744
50°	1469	1620	1771
55°	1433	1623	1806
60°	1377	1636	1868
65°	1314	1654	1936
70°	1244	1705	2043
75°	1109	1778	2232
80°	946	1883	2281
85°	675	1866	2183



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.9	3.1
10°-20°	345.8	8.9
20°-30°	522.3	13.5
30°-40°	629.5	16.2
40°-50°	660.9	17.1
50°-60°	618.3	16.0
60°-70°	510.6	13.2
70°-80°	347.9	9.0
80°-90°	118.7	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°	989.1	25.5
0°-40°	1618.6	41.8
0°-60°	2897.8	74.8
0°-90°	3875.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3875.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1278	1278	1278	1278	1278	
5°	1275	1274	1268	1275	1275	121
15°	1219	1220	1221	1234	1237	344
25°	1112	1117	1130	1152	1158	512
35°	967	977	1003	1036	1046	604
45°	796	812	854	900	917	614
55°	611	635	692	748	770	545
65°	413	447	519	585	608	409
75°	213	262	342	406	429	228
85°	44	86	121	136	141	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1277.9	1277.9	1277.9	1277.9	1277.9
2.5°	1279.2	1277.9	1271.5	1277.9	1276.7
5°	1275.4	1274.1	1267.7	1275.4	1275.4
7.5°	1266.4	1266.4	1259.9	1268.9	1270.2
10°	1253.5	1253.5	1249.7	1259.9	1259.9
12.5°	1238.1	1238.1	1238.1	1248.4	1249.7
15°	1218.8	1220.1	1221.4	1234.2	1236.8
17.5°	1195.7	1198.2	1202.1	1217.5	1220.1
20°	1171.2	1173.8	1180.2	1198.2	1202.1
22.5°	1140.4	1146.8	1155.8	1176.4	1180.2
25°	1112.1	1117.2	1130.1	1151.9	1158.4
27.5°	1077.4	1085.1	1101.8	1124.9	1133.9
30°	1042.7	1050.4	1071.0	1097.9	1105.7
32.5°	1005.4	1017.0	1038.8	1067.1	1076.1
35°	966.8	977.1	1002.8	1036.2	1046.5
37.5°	924.4	938.5	966.8	1002.8	1015.7
40°	883.2	898.7	930.8	969.4	984.8
42.5°	842.1	857.5	893.5	937.2	952.7
45°	795.8	812.5	853.7	900.0	916.7
47.5°	749.5	770.1	815.1	864.0	882.0
50°	702.0	725.1	774.0	825.4	846.0
52.5°	659.5	681.4	732.8	788.1	807.4
55°	610.7	635.1	691.7	748.3	770.1
57.5°	560.5	587.5	648.0	709.7	731.5
60°	511.7	541.3	608.1	669.8	694.3
62.5°	464.1	493.7	563.1	627.4	651.8
65°	412.7	447.4	519.4	585.0	608.1
67.5°	363.8	401.1	477.0	541.3	564.4
70°	316.3	352.3	433.3	496.3	519.4
72.5°	264.8	306.0	387.0	452.6	477.0
75°	213.4	262.3	342.0	406.3	429.4
77.5°	165.8	216.0	295.7	348.4	360.0
80°	122.1	173.6	243.0	280.3	294.4
82.5°	78.4	129.9	185.1	212.1	223.7
85°	43.7	86.1	120.9	136.3	141.4
87.5°	18.0	37.3	48.9	55.3	55.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)