

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: P313961

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-CP250-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: P313961
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 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: 3806.0 lumens
Efficiency: N/A
Efficacy: 112.6 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

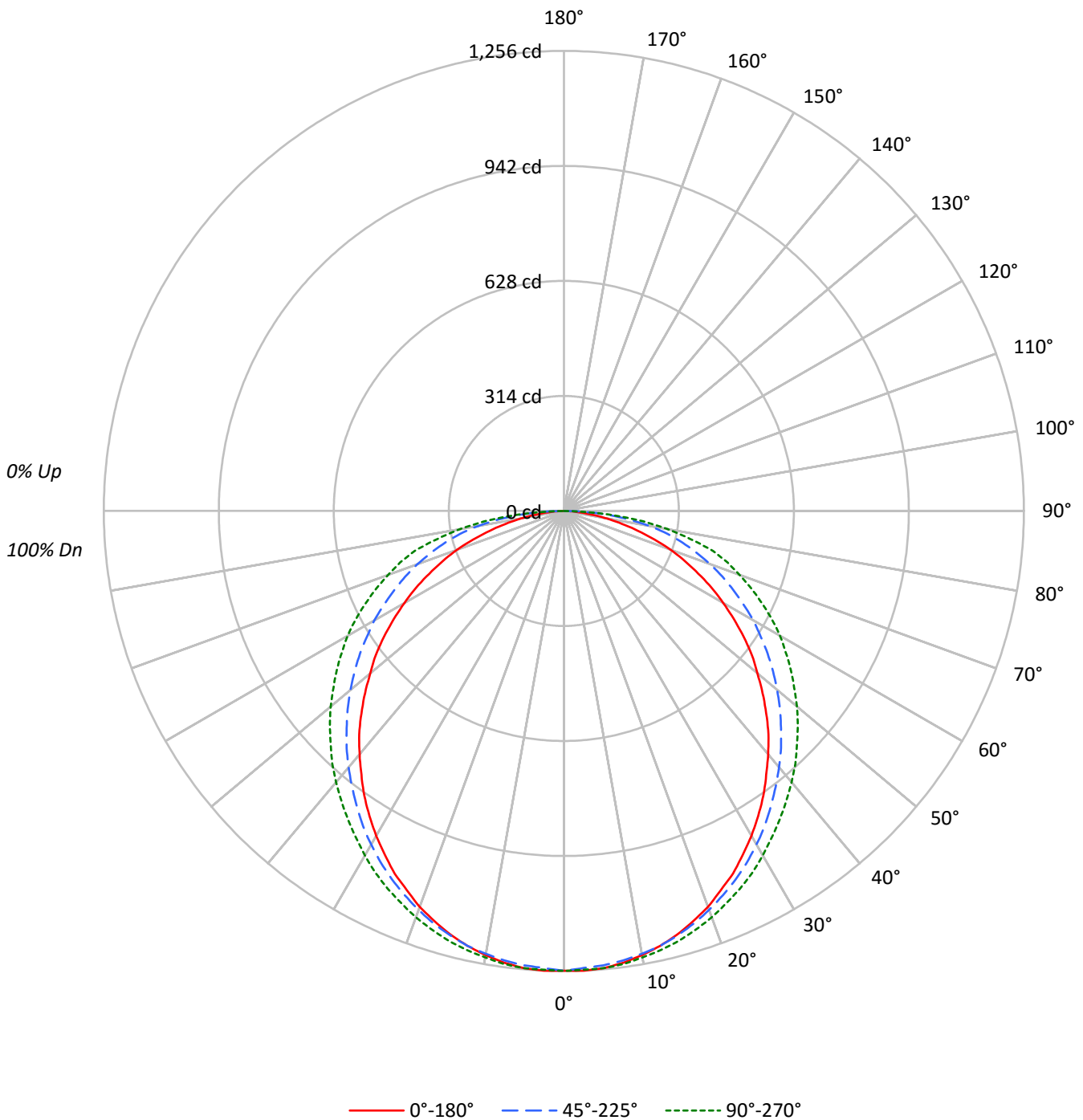
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1689	1689	1689
5°	1692	1682	1692
10°	1682	1677	1691
15°	1668	1671	1692
20°	1647	1660	1691
25°	1622	1648	1689
30°	1591	1634	1687
35°	1560	1618	1688
40°	1524	1606	1699
45°	1487	1596	1713
50°	1443	1591	1739
55°	1407	1594	1774
60°	1352	1607	1835
65°	1290	1624	1902
70°	1222	1674	2007
75°	1090	1746	2193
80°	930	1850	2241
85°	662	1832	2144



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.8	3.1
10°-20°	339.7	8.9
20°-30°	513.0	13.5
30°-40°	618.3	16.2
40°-50°	649.1	17.1
50°-60°	607.3	16.0
60°-70°	501.5	13.2
70°-80°	341.7	9.0
80°-90°	116.6	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°	971.5	25.5
0°-40°	1589.8	41.8
0°-60°	2846.2	74.8
0°-90°	3806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3806.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1255	1255	1255	1255	1255	
5°	1253	1251	1245	1253	1253	119
15°	1197	1198	1200	1212	1215	337
25°	1092	1097	1110	1131	1138	503
35°	950	960	985	1018	1028	593
45°	782	798	838	884	900	603
55°	600	624	679	735	756	535
65°	405	439	510	575	597	402
75°	210	258	336	399	422	224
85°	43	85	119	134	139	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1255.2	1255.2	1255.2	1255.2	1255.2
2.5°	1256.4	1255.2	1248.9	1255.2	1253.9
5°	1252.7	1251.4	1245.1	1252.7	1252.7
7.5°	1243.8	1243.8	1237.5	1246.3	1247.6
10°	1231.2	1231.2	1227.4	1237.5	1237.5
12.5°	1216.0	1216.0	1216.0	1226.1	1227.4
15°	1197.1	1198.4	1199.6	1212.3	1214.8
17.5°	1174.4	1176.9	1180.7	1195.8	1198.4
20°	1150.4	1152.9	1159.2	1176.9	1180.7
22.5°	1120.1	1126.4	1135.2	1155.4	1159.2
25°	1092.3	1097.3	1110.0	1131.4	1137.7
27.5°	1058.2	1065.8	1082.2	1104.9	1113.8
30°	1024.1	1031.7	1051.9	1078.4	1086.0
32.5°	987.5	998.8	1020.3	1048.1	1056.9
35°	949.6	959.7	985.0	1017.8	1027.9
37.5°	907.9	921.8	949.6	985.0	997.6
40°	867.5	882.7	914.2	952.1	967.3
42.5°	827.1	842.3	877.6	920.6	935.7
45°	781.6	798.1	838.5	883.9	900.3
47.5°	736.2	756.4	800.6	848.6	866.3
50°	689.5	712.2	760.2	810.7	830.9
52.5°	647.8	669.3	719.8	774.1	793.0
55°	599.8	623.8	679.4	734.9	756.4
57.5°	550.6	577.1	636.4	697.0	718.5
60°	502.6	531.6	597.3	657.9	681.9
62.5°	455.9	484.9	553.1	616.2	640.2
65°	405.3	439.4	510.2	574.6	597.3
67.5°	357.4	394.0	468.5	531.6	554.4
70°	310.6	346.0	425.6	487.4	510.2
72.5°	260.1	300.5	380.1	444.5	468.5
75°	209.6	257.6	335.9	399.0	421.8
77.5°	162.9	212.1	290.4	342.2	353.6
80°	120.0	170.5	238.7	275.3	289.2
82.5°	77.0	127.5	181.8	208.4	219.7
85°	42.9	84.6	118.7	133.9	138.9
87.5°	17.7	36.6	48.0	54.3	54.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)