

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: P311472

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP250-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: P311472
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-L82765-S-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB 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

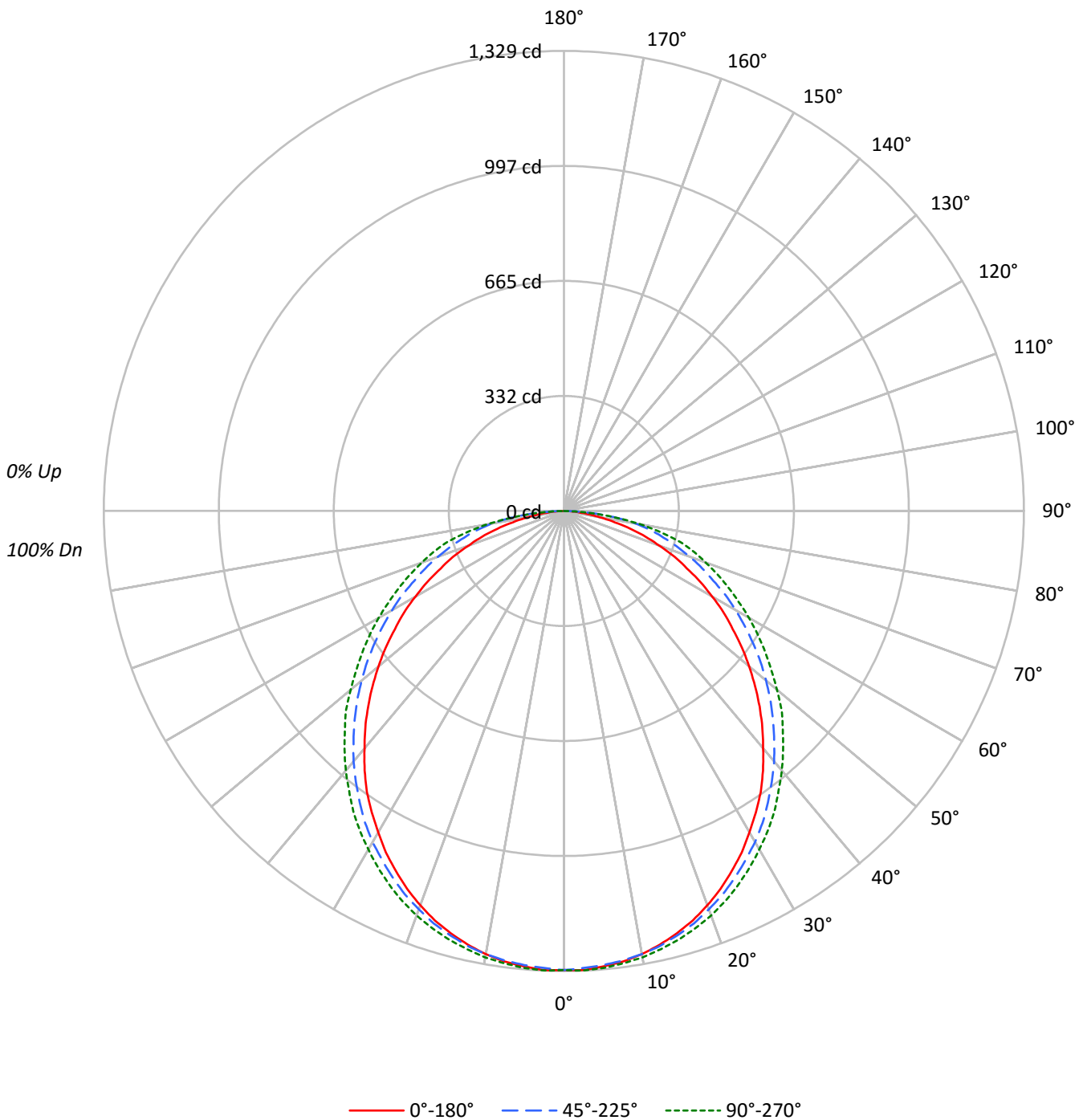
Lumens per Lamp: N/A
Luminaire Lumens: 3775.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.6
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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1784	1784	1784
5°	1783	1778	1790
10°	1776	1776	1789
15°	1759	1767	1785
20°	1736	1753	1780
25°	1704	1736	1769
30°	1665	1716	1755
35°	1629	1688	1741
40°	1573	1660	1721
45°	1522	1627	1702
50°	1463	1596	1682
55°	1398	1567	1665
60°	1333	1542	1662
65°	1248	1515	1672
70°	1156	1524	1717
75°	1035	1552	1814
80°	836	1644	1774
85°	630	1443	1406



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.6	3.3
10°-20°	358.7	9.5
20°-30°	539.3	14.3
30°-40°	642.4	17.0
40°-50°	657.4	17.4
50°-60°	591.9	15.7
60°-70°	464.8	12.3
70°-80°	301.7	8.0
80°-90°	93.3	2.5
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°	1023.6	27.1
0°-40°	1665.9	44.1
0°-60°	2915.2	77.2
0°-90°	3775.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3775.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1326	1326	1326	1326	1326	
5°	1320	1323	1317	1324	1325	125
15°	1263	1266	1269	1279	1282	356
25°	1148	1157	1169	1188	1192	529
35°	992	1004	1028	1053	1060	619
45°	800	819	855	887	894	617
55°	596	622	668	703	710	534
65°	392	422	476	516	525	390
75°	199	237	299	339	349	211
85°	41	76	94	91	91	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1326.2	1326.2	1326.2	1326.2	1326.2
2.5°	1327.4	1327.4	1321.4	1327.4	1328.6
5°	1320.2	1322.6	1316.6	1323.8	1325.0
7.5°	1313.0	1313.0	1309.4	1316.6	1317.8
10°	1299.8	1301.0	1299.8	1308.2	1309.4
12.5°	1283.0	1285.4	1286.6	1295.0	1296.2
15°	1262.6	1266.2	1268.6	1279.4	1281.8
17.5°	1239.8	1243.4	1249.4	1261.4	1263.8
20°	1212.3	1217.1	1224.3	1239.8	1243.4
22.5°	1182.3	1187.1	1199.1	1213.5	1219.5
25°	1147.5	1157.1	1169.1	1188.3	1191.9
27.5°	1112.7	1121.1	1136.7	1157.1	1161.9
30°	1072.0	1085.2	1104.4	1124.7	1129.5
32.5°	1032.4	1045.6	1068.4	1090.0	1096.0
35°	991.6	1003.6	1027.6	1052.8	1060.0
37.5°	944.9	960.5	986.8	1012.0	1019.2
40°	895.7	914.9	944.9	971.3	979.6
42.5°	848.9	869.3	899.3	928.1	937.7
45°	799.8	819.0	854.9	887.3	894.5
47.5°	749.4	771.0	809.4	841.8	853.7
50°	699.1	721.8	762.6	796.2	803.4
52.5°	648.7	672.7	715.9	751.8	755.4
55°	595.9	622.3	667.9	702.7	709.9
57.5°	548.0	570.8	619.9	655.9	664.3
60°	495.2	520.4	573.2	606.7	617.5
62.5°	444.9	471.2	526.4	560.0	569.6
65°	392.1	422.1	476.0	515.6	525.2
67.5°	346.5	375.3	432.9	471.2	480.8
70°	293.8	326.1	387.3	426.9	436.5
72.5°	248.2	281.8	342.9	381.3	395.7
75°	199.0	237.4	298.6	339.3	348.9
77.5°	151.1	195.4	257.8	289.0	289.0
80°	107.9	154.7	212.2	226.6	229.0
82.5°	70.7	116.3	157.1	155.9	155.9
85°	40.8	75.5	93.5	91.1	91.1
87.5°	15.6	31.2	33.6	33.6	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)