

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: P311458

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP125-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: P311458
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-CP125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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

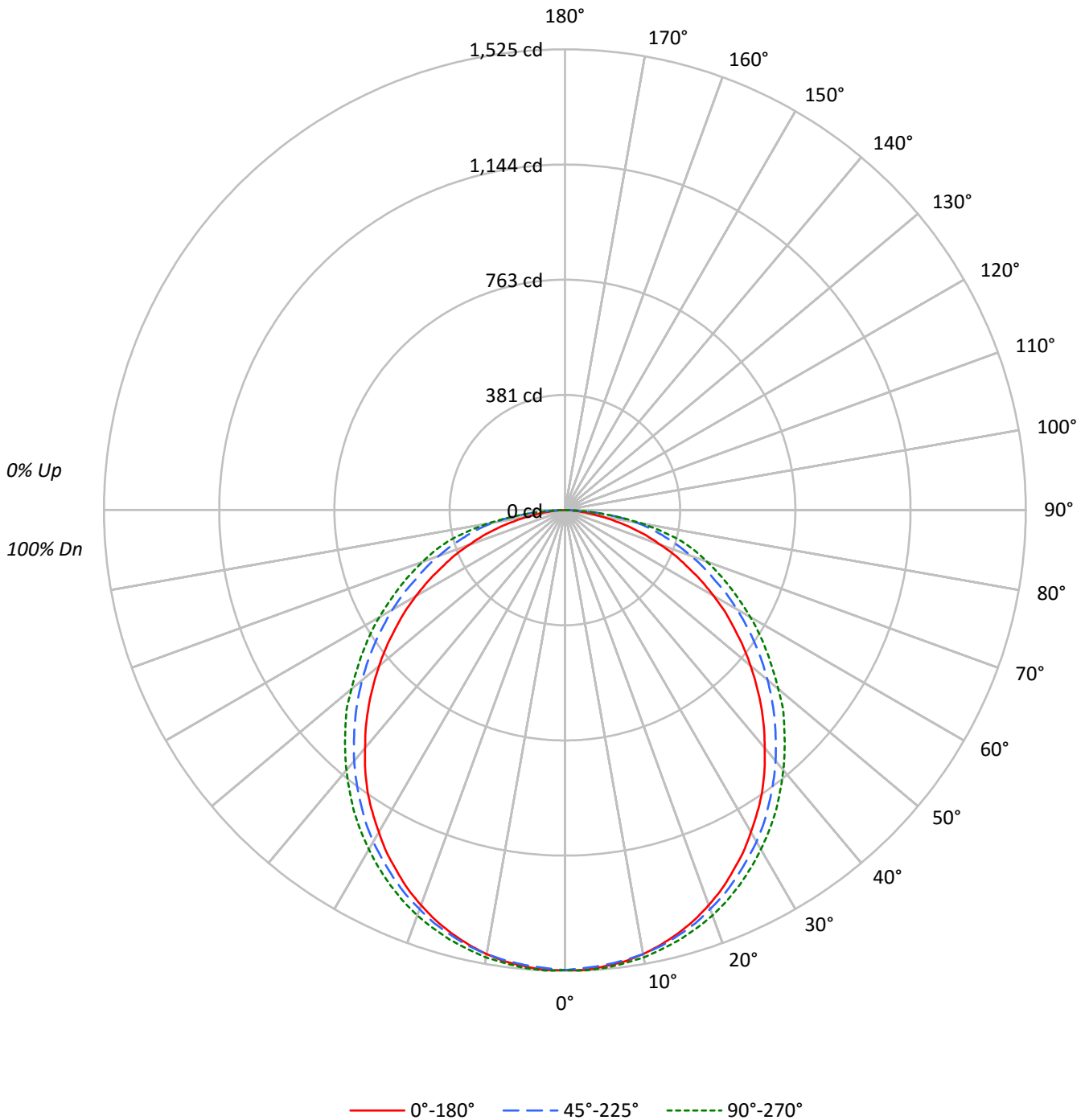
Lumens per Lamp: N/A
Luminaire Lumens: 4334.0 lumens
Efficiency: N/A
Efficacy: 125.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	2049	2049	2049
5°	2047	2041	2055
10°	2039	2039	2054
15°	2019	2029	2050
20°	1993	2012	2044
25°	1956	1993	2032
30°	1912	1970	2015
35°	1870	1938	1999
40°	1806	1905	1975
45°	1747	1868	1954
50°	1680	1833	1931
55°	1605	1799	1912
60°	1530	1771	1908
65°	1433	1740	1920
70°	1327	1749	1971
75°	1188	1782	2083
80°	960	1888	2037
85°	722	1658	1615



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.1	3.3
10°-20°	411.9	9.5
20°-30°	619.1	14.3
30°-40°	737.5	17.0
40°-50°	754.8	17.4
50°-60°	679.5	15.7
60°-70°	533.6	12.3
70°-80°	346.4	8.0
80°-90°	107.1	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°	1175.1	27.1
0°-40°	1912.6	44.1
0°-60°	3346.9	77.2
0°-90°	4334.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4334.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1523	1523	1523	1523	1523	
5°	1516	1518	1512	1520	1521	144
15°	1450	1454	1456	1469	1472	409
25°	1317	1328	1342	1364	1368	607
35°	1138	1152	1180	1209	1217	710
45°	918	940	982	1019	1027	708
55°	684	714	767	807	815	613
65°	450	485	546	592	603	448
75°	228	273	343	390	401	242
85°	47	87	107	105	105	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1522.6	1522.6	1522.6	1522.6	1522.6
2.5°	1523.9	1523.9	1517.1	1523.9	1525.3
5°	1515.7	1518.4	1511.5	1519.8	1521.2
7.5°	1507.4	1507.4	1503.3	1511.5	1512.9
10°	1492.3	1493.7	1492.3	1501.9	1503.3
12.5°	1473.0	1475.8	1477.1	1486.8	1488.1
15°	1449.6	1453.7	1456.5	1468.9	1471.6
17.5°	1423.4	1427.6	1434.5	1448.2	1451.0
20°	1391.8	1397.3	1405.5	1423.4	1427.6
22.5°	1357.4	1362.9	1376.6	1393.2	1400.0
25°	1317.4	1328.5	1342.2	1364.2	1368.4
27.5°	1277.5	1287.2	1305.1	1328.5	1334.0
30°	1230.7	1245.9	1267.9	1291.3	1296.8
32.5°	1185.3	1200.4	1226.6	1251.4	1258.2
35°	1138.5	1152.2	1179.8	1208.7	1216.9
37.5°	1084.8	1102.7	1133.0	1161.9	1170.1
40°	1028.3	1050.4	1084.8	1115.1	1124.7
42.5°	974.7	998.1	1032.5	1065.5	1076.5
45°	918.2	940.2	981.5	1018.7	1027.0
47.5°	860.4	885.2	929.2	966.4	980.2
50°	802.6	828.7	875.5	914.1	922.3
52.5°	744.8	772.3	821.9	863.2	867.3
55°	684.2	714.5	766.8	806.7	815.0
57.5°	629.1	655.3	711.7	753.0	762.7
60°	568.6	597.5	658.0	696.6	709.0
62.5°	510.7	541.0	604.3	642.9	653.9
65°	450.2	484.6	546.5	592.0	603.0
67.5°	397.8	430.9	497.0	541.0	552.0
70°	337.3	374.4	444.7	490.1	501.1
72.5°	285.0	323.5	393.7	437.8	454.3
75°	228.5	272.6	342.8	389.6	400.6
77.5°	173.5	224.4	296.0	331.8	331.8
80°	123.9	177.6	243.7	260.2	262.9
82.5°	81.2	133.5	180.3	179.0	179.0
85°	46.8	86.7	107.4	104.6	104.6
87.5°	17.9	35.8	38.5	38.5	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)