

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: P311455

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CP125-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: P311455
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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

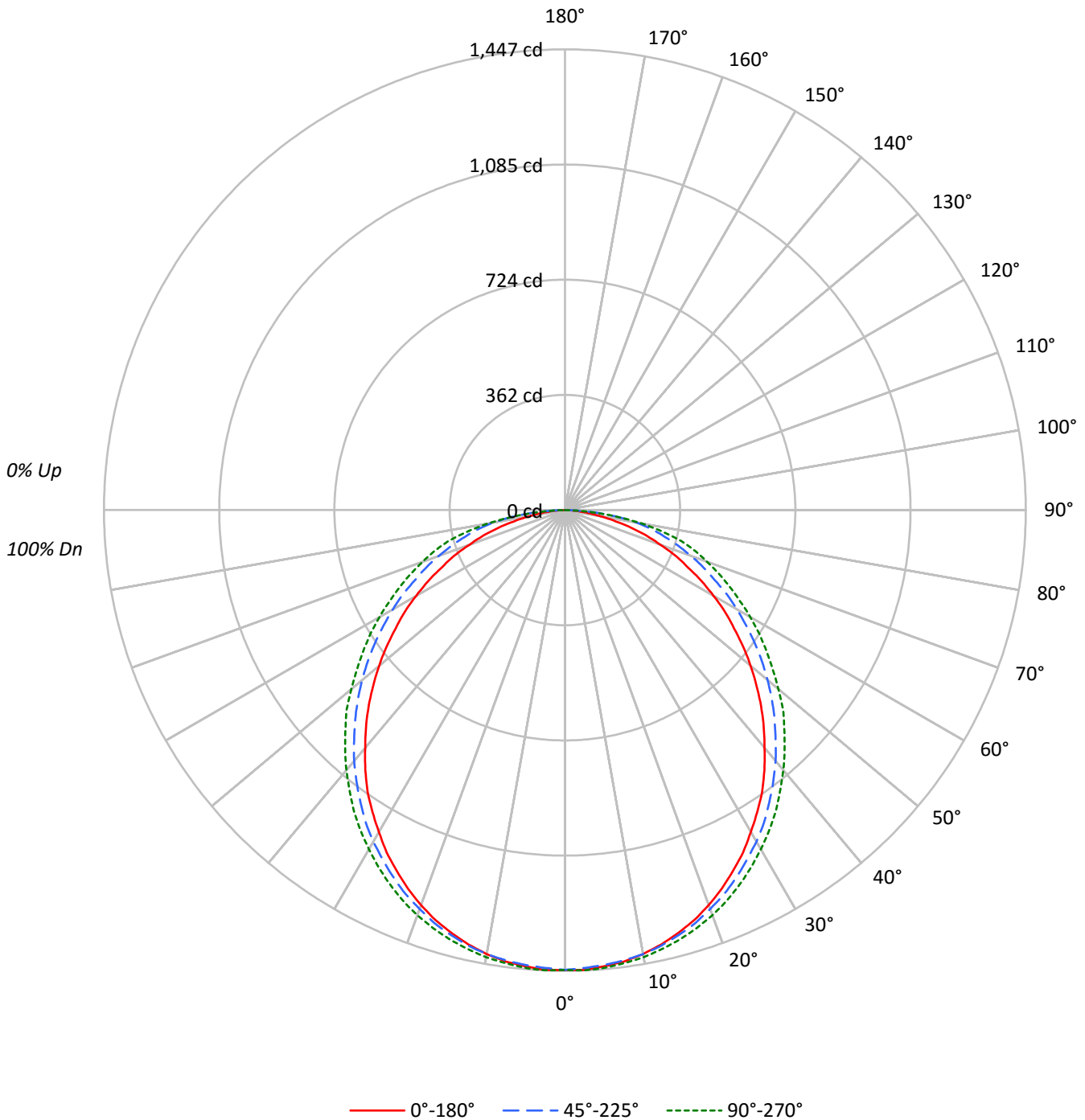
Lumens per Lamp: N/A
Luminaire Lumens: 4111.0 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34
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°	1943	1943	1943
5°	1942	1937	1949
10°	1934	1934	1948
15°	1915	1924	1944
20°	1890	1909	1939
25°	1855	1890	1927
30°	1814	1868	1911
35°	1774	1838	1896
40°	1713	1807	1874
45°	1657	1772	1854
50°	1594	1738	1831
55°	1522	1706	1813
60°	1451	1680	1810
65°	1359	1650	1821
70°	1258	1659	1870
75°	1127	1690	1975
80°	910	1791	1932
85°	685	1573	1531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.7	3.3
10°-20°	390.7	9.5
20°-30°	587.3	14.3
30°-40°	699.5	17.0
40°-50°	715.9	17.4
50°-60°	644.6	15.7
60°-70°	506.2	12.3
70°-80°	328.5	8.0
80°-90°	101.6	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°	1114.7	27.1
0°-40°	1814.2	44.1
0°-60°	3174.7	77.2
0°-90°	4111.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4111.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1444	1444	1444	1444	1444	
5°	1438	1440	1434	1442	1443	137
15°	1375	1379	1382	1393	1396	388
25°	1250	1260	1273	1294	1298	576
35°	1080	1093	1119	1146	1154	674
45°	871	892	931	966	974	671
55°	649	678	727	765	773	582
65°	427	460	518	562	572	425
75°	217	258	325	370	380	229
85°	44	82	102	99	99	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1444.2	1444.2	1444.2	1444.2	1444.2
2.5°	1445.5	1445.5	1439.0	1445.5	1446.8
5°	1437.7	1440.3	1433.8	1441.6	1442.9
7.5°	1429.9	1429.9	1425.9	1433.8	1435.1
10°	1415.5	1416.8	1415.5	1424.6	1425.9
12.5°	1397.2	1399.8	1401.1	1410.3	1411.6
15°	1375.0	1378.9	1381.5	1393.3	1395.9
17.5°	1350.2	1354.1	1360.6	1373.7	1376.3
20°	1320.2	1325.4	1333.2	1350.2	1354.1
22.5°	1287.5	1292.7	1305.8	1321.5	1328.0
25°	1249.7	1260.1	1273.2	1294.1	1298.0
27.5°	1211.8	1220.9	1237.9	1260.1	1265.3
30°	1167.4	1181.8	1202.6	1224.8	1230.1
32.5°	1124.3	1138.7	1163.5	1187.0	1193.5
35°	1079.9	1093.0	1119.1	1146.5	1154.3
37.5°	1029.0	1046.0	1074.7	1102.1	1109.9
40°	975.4	996.3	1029.0	1057.7	1066.8
42.5°	924.5	946.7	979.4	1010.7	1021.1
45°	871.0	891.9	931.0	966.3	974.1
47.5°	816.1	839.6	881.4	916.7	929.7
50°	761.3	786.1	830.5	867.1	874.9
52.5°	706.4	732.6	779.6	818.7	822.7
55°	649.0	677.7	727.3	765.2	773.0
57.5°	596.8	621.6	675.1	714.3	723.4
60°	539.3	566.7	624.2	660.7	672.5
62.5°	484.5	513.2	573.2	609.8	620.3
65°	427.0	459.6	518.4	561.5	571.9
67.5°	377.4	408.7	471.4	513.2	523.6
70°	319.9	355.2	421.8	464.9	475.3
72.5°	270.3	306.9	373.5	415.2	430.9
75°	216.8	258.5	325.1	369.5	380.0
77.5°	164.5	212.8	280.7	314.7	314.7
80°	117.5	168.4	231.1	246.8	249.4
82.5°	77.0	126.7	171.1	169.8	169.8
85°	44.4	82.3	101.9	99.2	99.2
87.5°	17.0	34.0	36.6	36.6	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)