

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: P314241

Luminaire Tested: **24FCZ2-35-UNV-L83050-S-CA08-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: P314241
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: 24FCZ2-35-UNV-L83050-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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

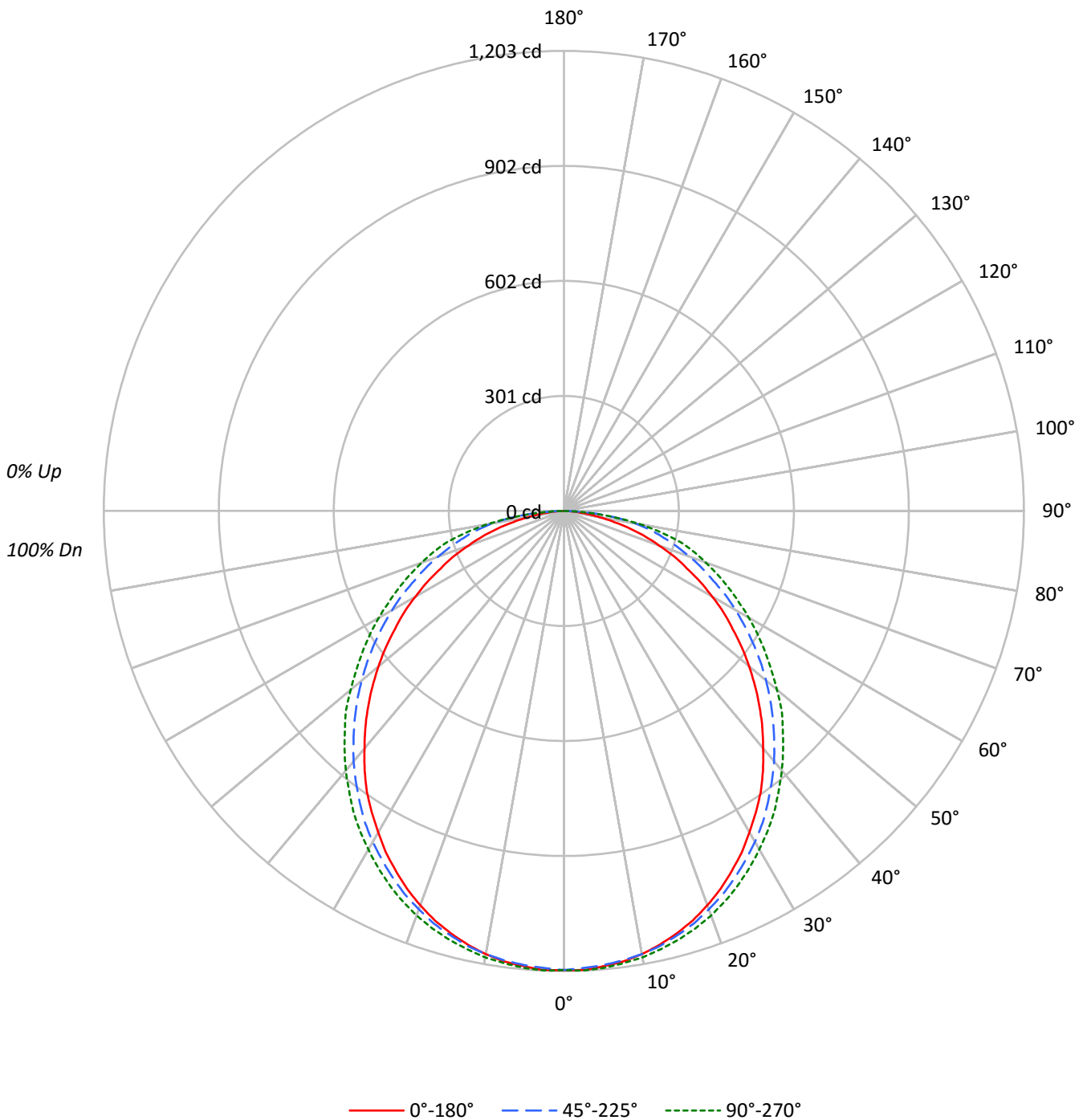
Lumens per Lamp: N/A
Luminaire Lumens: 3417.0 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28
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°	1615	1615	1615
5°	1614	1610	1620
10°	1607	1607	1619
15°	1592	1600	1616
20°	1571	1587	1612
25°	1542	1571	1602
30°	1507	1553	1588
35°	1474	1528	1576
40°	1424	1502	1557
45°	1377	1473	1541
50°	1325	1445	1522
55°	1265	1418	1507
60°	1206	1396	1504
65°	1130	1372	1514
70°	1046	1379	1554
75°	937	1405	1642
80°	757	1488	1606
85°	570	1308	1274



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.6	3.3
10°-20°	324.7	9.5
20°-30°	488.1	14.3
30°-40°	581.4	17.0
40°-50°	595.1	17.4
50°-60°	535.7	15.7
60°-70°	420.7	12.3
70°-80°	273.1	8.0
80°-90°	84.5	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°	926.5	27.1
0°-40°	1507.9	44.1
0°-60°	2638.8	77.2
0°-90°	3417.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3417.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1200	1200	1200	1200	1200	
5°	1195	1197	1192	1198	1199	114
15°	1143	1146	1148	1158	1160	322
25°	1039	1047	1058	1076	1079	478
35°	898	908	930	953	960	560
45°	724	741	774	803	810	558
55°	539	563	604	636	642	484
65°	355	382	431	467	475	353
75°	180	215	270	307	316	191
85°	37	68	85	82	82	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1200.4	1200.4	1200.4	1200.4	1200.4
2.5°	1201.5	1201.5	1196.1	1201.5	1202.6
5°	1195.0	1197.2	1191.7	1198.2	1199.3
7.5°	1188.5	1188.5	1185.2	1191.7	1192.8
10°	1176.5	1177.6	1176.5	1184.1	1185.2
12.5°	1161.3	1163.5	1164.6	1172.2	1173.3
15°	1142.9	1146.1	1148.3	1158.1	1160.3
17.5°	1122.3	1125.5	1131.0	1141.8	1144.0
20°	1097.3	1101.6	1108.2	1122.3	1125.5
22.5°	1070.2	1074.5	1085.4	1098.4	1103.8
25°	1038.7	1047.4	1058.2	1075.6	1078.9
27.5°	1007.2	1014.8	1028.9	1047.4	1051.7
30°	970.3	982.3	999.6	1018.1	1022.4
32.5°	934.5	946.4	967.1	986.6	992.0
35°	897.6	908.5	930.2	953.0	959.5
37.5°	855.3	869.4	893.3	916.0	922.6
40°	810.8	828.1	855.3	879.1	886.7
42.5°	768.4	786.9	814.0	840.1	848.8
45°	723.9	741.3	773.9	803.2	809.7
47.5°	678.4	697.9	732.6	761.9	772.8
50°	632.8	653.4	690.3	720.7	727.2
52.5°	587.2	608.9	648.0	680.5	683.8
55°	539.4	563.3	604.5	636.0	642.5
57.5°	496.0	516.6	561.1	593.7	601.3
60°	448.3	471.0	518.8	549.2	559.0
62.5°	402.7	426.5	476.5	506.9	515.5
65°	354.9	382.0	430.9	466.7	475.4
67.5°	313.7	339.7	391.8	426.5	435.2
70°	265.9	295.2	350.6	386.4	395.1
72.5°	224.7	255.1	310.4	345.1	358.2
75°	180.2	214.9	270.3	307.2	315.8
77.5°	136.8	176.9	233.4	261.6	261.6
80°	97.7	140.0	192.1	205.1	207.3
82.5°	64.0	105.3	142.2	141.1	141.1
85°	36.9	68.4	84.7	82.5	82.5
87.5°	14.1	28.2	30.4	30.4	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)