

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: P314280

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-S-CP187-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: P314280
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: 24FCZ2-40HE-UNV-L83050-S-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" 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

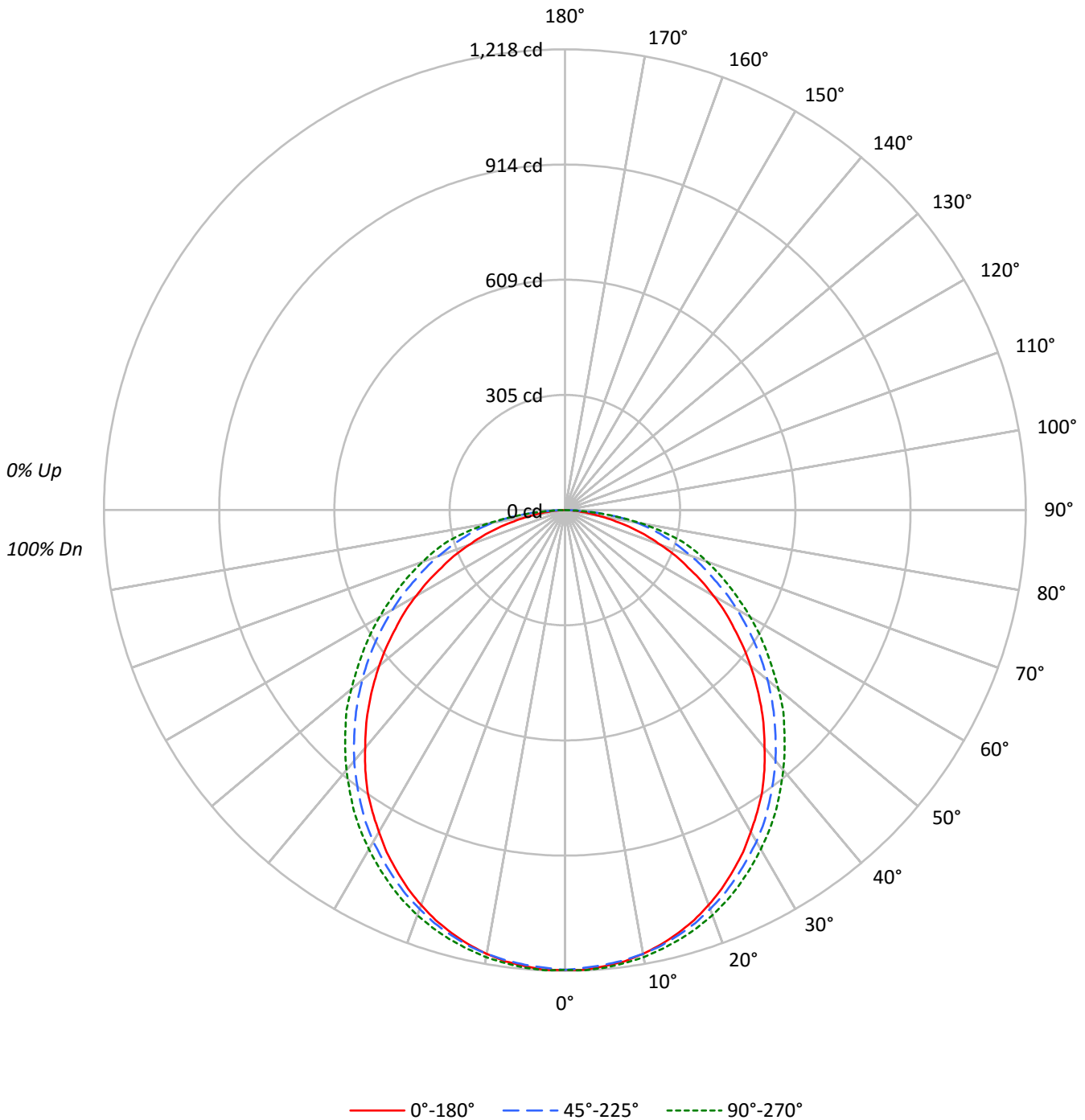
Lumens per Lamp: N/A
Luminaire Lumens: 3460.0 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 30.3
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°	1635	1635	1635
5°	1634	1630	1640
10°	1628	1628	1640
15°	1612	1620	1637
20°	1591	1607	1632
25°	1561	1591	1622
30°	1526	1573	1608
35°	1493	1547	1596
40°	1442	1521	1577
45°	1395	1491	1560
50°	1341	1463	1541
55°	1281	1436	1526
60°	1221	1414	1523
65°	1144	1389	1533
70°	1059	1397	1574
75°	948	1423	1663
80°	766	1507	1626
85°	577	1323	1289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.1	3.3
10°-20°	328.8	9.5
20°-30°	494.3	14.3
30°-40°	588.8	17.0
40°-50°	602.6	17.4
50°-60°	542.5	15.7
60°-70°	426.0	12.3
70°-80°	276.5	8.0
80°-90°	85.5	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°	938.2	27.1
0°-40°	1526.9	44.1
0°-60°	2672.0	77.2
0°-90°	3460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1216	1216	1216	1216	1216	
5°	1210	1212	1207	1213	1214	115
15°	1157	1161	1163	1173	1175	326
25°	1052	1061	1072	1089	1092	485
35°	909	920	942	965	972	567
45°	733	751	784	813	820	565
55°	546	570	612	644	651	490
65°	359	387	436	473	481	358
75°	182	218	274	311	320	193
85°	37	69	86	84	84	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1215.5	1215.5	1215.5	1215.5	1215.5
2.5°	1216.6	1216.6	1211.1	1216.6	1217.7
5°	1210.0	1212.2	1206.7	1213.3	1214.4
7.5°	1203.4	1203.4	1200.1	1206.7	1207.8
10°	1191.3	1192.4	1191.3	1199.0	1200.1
12.5°	1176.0	1178.2	1179.3	1186.9	1188.0
15°	1157.3	1160.6	1162.8	1172.7	1174.9
17.5°	1136.4	1139.7	1145.2	1156.2	1158.4
20°	1111.1	1115.5	1122.1	1136.4	1139.7
22.5°	1083.6	1088.0	1099.0	1112.2	1117.7
25°	1051.8	1060.6	1071.5	1089.1	1092.4
27.5°	1019.9	1027.6	1041.9	1060.6	1065.0
30°	982.5	994.6	1012.2	1030.9	1035.3
32.5°	946.3	958.3	979.2	999.0	1004.5
35°	908.9	919.9	941.9	964.9	971.5
37.5°	866.0	880.3	904.5	927.6	934.2
40°	821.0	838.6	866.0	890.2	897.9
42.5°	778.1	796.8	824.3	850.6	859.4
45°	733.0	750.6	783.6	813.3	819.9
47.5°	686.9	706.7	741.8	771.5	782.5
50°	640.7	661.6	699.0	729.8	736.3
52.5°	594.6	616.6	656.1	689.1	692.4
55°	546.2	570.4	612.2	644.0	650.6
57.5°	502.3	523.1	568.2	601.2	608.9
60°	453.9	477.0	525.3	556.1	566.0
62.5°	407.7	431.9	482.5	513.2	522.0
65°	359.4	386.9	436.3	472.6	481.4
67.5°	317.6	344.0	396.7	431.9	440.7
70°	269.3	298.9	355.0	391.3	400.0
72.5°	227.5	258.3	314.3	349.5	362.7
75°	182.4	217.6	273.7	311.0	319.8
77.5°	138.5	179.1	236.3	264.9	264.9
80°	98.9	141.8	194.5	207.7	209.9
82.5°	64.8	106.6	144.0	142.9	142.9
85°	37.4	69.2	85.7	83.5	83.5
87.5°	14.3	28.6	30.8	30.8	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)