

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: P314268

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-S-CA08-W2A-U-4500K**

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: P314268
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-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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

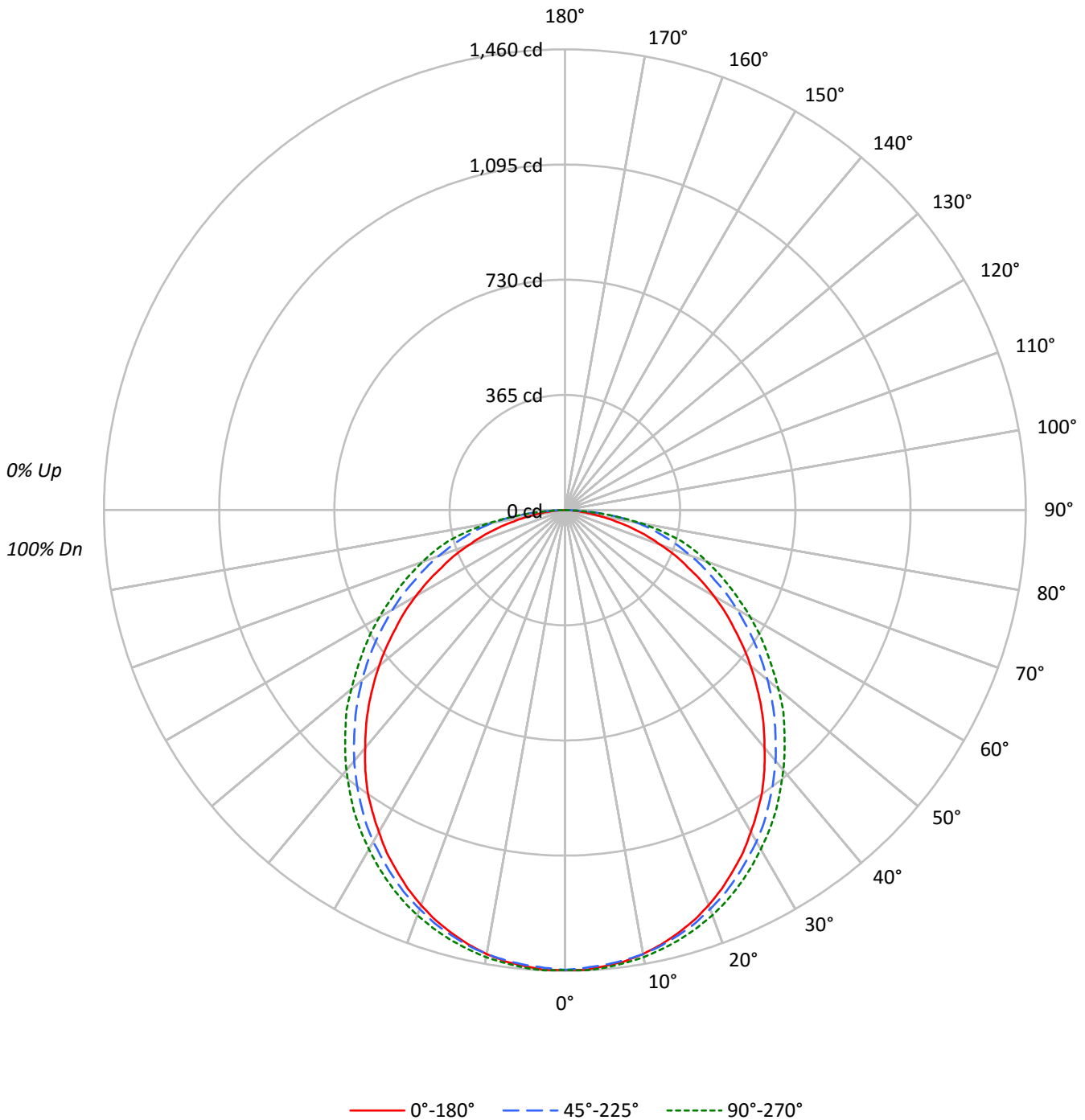
Lumens per Lamp: N/A
Luminaire Lumens: 4148.0 lumens
Efficiency: N/A
Efficacy: 130.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31.9
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°	1961	1961	1961
5°	1959	1954	1966
10°	1951	1951	1966
15°	1933	1942	1962
20°	1907	1926	1956
25°	1872	1907	1944
30°	1830	1885	1928
35°	1790	1855	1913
40°	1729	1824	1891
45°	1672	1787	1870
50°	1608	1754	1848
55°	1536	1722	1830
60°	1464	1695	1826
65°	1372	1665	1837
70°	1270	1674	1887
75°	1137	1706	1993
80°	919	1807	1950
85°	692	1587	1545



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.0	3.3
10°-20°	394.2	9.5
20°-30°	592.6	14.3
30°-40°	705.8	17.0
40°-50°	722.4	17.4
50°-60°	650.4	15.7
60°-70°	510.7	12.3
70°-80°	331.5	8.0
80°-90°	102.5	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°	1124.7	27.1
0°-40°	1830.5	44.1
0°-60°	3203.3	77.2
0°-90°	4148.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1451	1453	1447	1455	1456	138
15°	1387	1391	1394	1406	1408	391
25°	1261	1271	1285	1306	1310	581
35°	1090	1103	1129	1157	1165	680
45°	879	900	939	975	983	678
55°	655	684	734	772	780	587
65°	431	464	523	567	577	429
75°	219	261	328	373	383	231
85°	45	83	103	100	100	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1457.2	1457.2	1457.2	1457.2	1457.2
2.5°	1458.5	1458.5	1451.9	1458.5	1459.9
5°	1450.6	1453.3	1446.7	1454.6	1455.9
7.5°	1442.7	1442.7	1438.8	1446.7	1448.0
10°	1428.2	1429.6	1428.2	1437.5	1438.8
12.5°	1409.8	1412.4	1413.7	1423.0	1424.3
15°	1387.4	1391.3	1394.0	1405.8	1408.5
17.5°	1362.4	1366.3	1372.9	1386.1	1388.7
20°	1332.1	1337.3	1345.2	1362.4	1366.3
22.5°	1299.1	1304.4	1317.6	1333.4	1340.0
25°	1260.9	1271.4	1284.6	1305.7	1309.7
27.5°	1222.7	1231.9	1249.0	1271.4	1276.7
30°	1177.9	1192.4	1213.5	1235.9	1241.1
32.5°	1134.4	1148.9	1173.9	1197.7	1204.2
35°	1089.6	1102.8	1129.1	1156.8	1164.7
37.5°	1038.2	1055.4	1084.4	1112.0	1119.9
40°	984.2	1005.3	1038.2	1067.2	1076.4
42.5°	932.8	955.2	988.2	1019.8	1030.3
45°	878.8	899.9	939.4	975.0	982.9
47.5°	823.5	847.2	889.4	924.9	938.1
50°	768.1	793.2	838.0	874.9	882.8
52.5°	712.8	739.2	786.6	826.1	830.1
55°	654.8	683.8	733.9	772.1	780.0
57.5°	602.1	627.2	681.2	720.7	729.9
60°	544.2	571.8	629.8	666.7	678.5
62.5°	488.8	517.8	578.4	615.3	625.8
65°	430.8	463.8	523.1	566.6	577.1
67.5°	380.8	412.4	475.6	517.8	528.3
70°	322.8	358.4	425.6	469.1	479.6
72.5°	272.7	309.6	376.8	419.0	434.8
75°	218.7	260.9	328.1	372.9	383.4
77.5°	166.0	214.8	283.3	317.5	317.5
80°	118.6	170.0	233.2	249.0	251.7
82.5°	77.7	127.8	172.6	171.3	171.3
85°	44.8	83.0	102.8	100.1	100.1
87.5°	17.1	34.3	36.9	36.9	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)