

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: P313378

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CP125-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: P313378
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L83050-HRP-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB 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: 5186.0 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

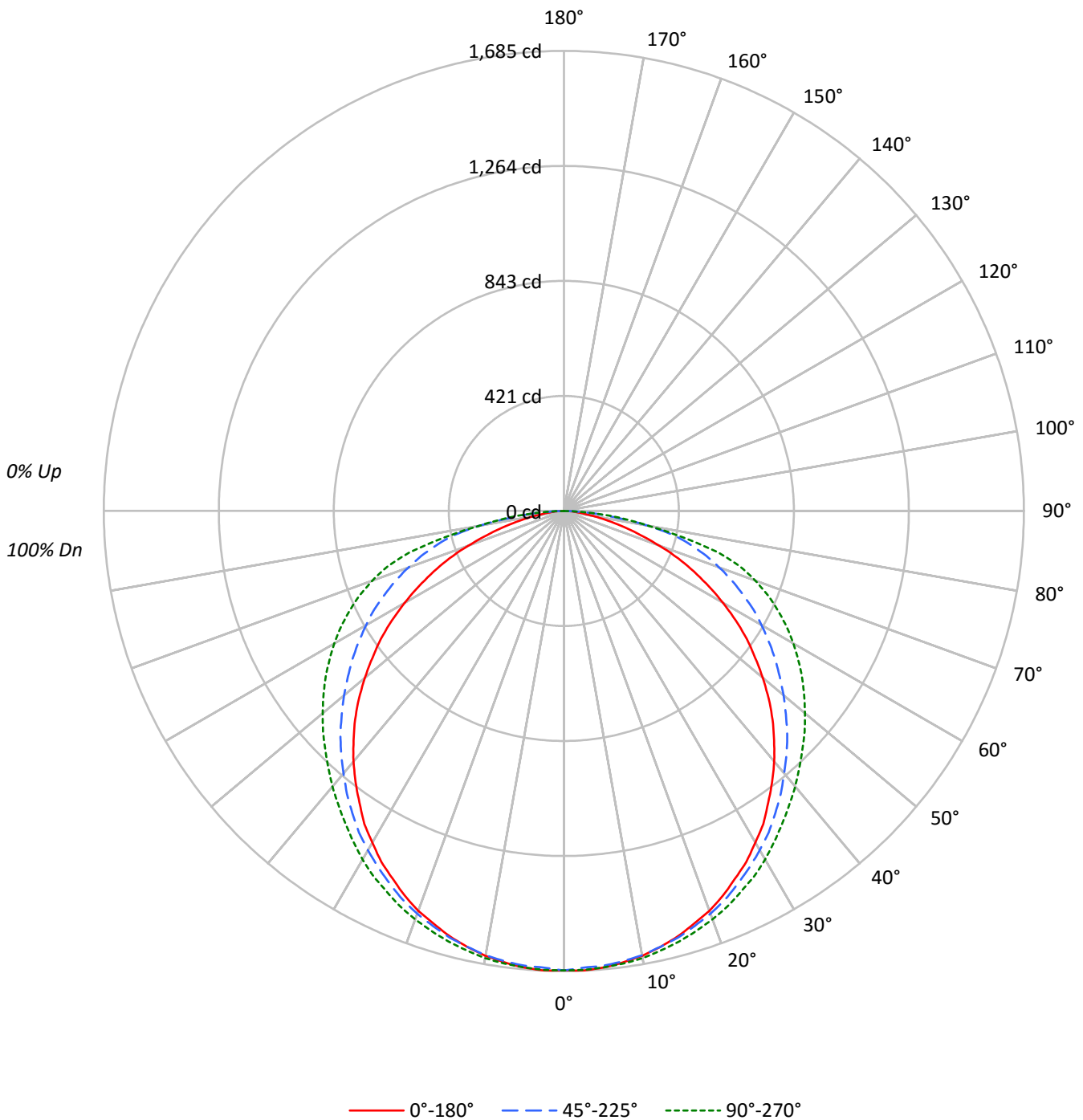
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2264	2264	2264
5°	2267	2258	2267
10°	2260	2257	2272
15°	2247	2253	2274
20°	2232	2248	2279
25°	2205	2237	2282
30°	2179	2230	2290
35°	2143	2218	2293
40°	2105	2204	2315
45°	2057	2202	2351
50°	1990	2200	2413
55°	1920	2215	2501
60°	1811	2249	2612
65°	1673	2302	2758
70°	1461	2383	2938
75°	1185	2506	3036
80°	875	2456	2456
85°	670	1809	2044



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.4	3.1
10°-20°	457.7	8.8
20°-30°	696.8	13.4
30°-40°	846.1	16.3
40°-50°	893.9	17.2
50°-60°	843.5	16.3
60°-70°	701.3	13.5
70°-80°	461.4	8.9
80°-90°	125.8	2.4
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°	1313.9	25.3
0°-40°	2160.0	41.7
0°-60°	3897.4	75.2
0°-90°	5186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5186.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1683	1683	1683	1683	1683	
5°	1678	1678	1672	1678	1678	159
15°	1613	1615	1618	1633	1633	455
25°	1485	1494	1507	1533	1537	685
35°	1305	1320	1350	1385	1396	817
45°	1081	1103	1157	1214	1235	833
55°	818	853	944	1033	1066	729
65°	525	586	723	829	866	519
75°	228	332	482	571	584	246
85°	43	96	117	130	132	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1682.6	1682.6	1682.6	1682.6	1682.6
2.5°	1684.8	1682.6	1673.9	1682.6	1682.6
5°	1678.3	1678.3	1671.7	1678.3	1678.3
7.5°	1667.4	1667.4	1663.1	1671.7	1671.7
10°	1654.4	1654.4	1652.2	1663.1	1663.1
12.5°	1634.8	1637.0	1634.8	1647.9	1647.9
15°	1613.1	1615.3	1617.5	1632.7	1632.7
17.5°	1584.9	1589.2	1593.6	1611.0	1613.1
20°	1558.8	1561.0	1569.7	1589.2	1591.4
22.5°	1524.1	1530.6	1541.5	1561.0	1567.5
25°	1485.0	1493.7	1506.7	1532.8	1537.1
27.5°	1448.1	1454.6	1472.0	1500.2	1508.9
30°	1402.5	1413.4	1435.1	1463.3	1474.2
32.5°	1359.1	1370.0	1396.0	1426.4	1435.1
35°	1304.8	1320.0	1350.4	1385.2	1396.0
37.5°	1252.7	1267.9	1304.8	1343.9	1356.9
40°	1198.4	1215.8	1254.9	1300.5	1317.9
42.5°	1139.8	1163.7	1207.1	1257.1	1276.6
45°	1081.2	1102.9	1157.2	1213.6	1235.4
47.5°	1018.2	1044.3	1102.9	1170.2	1196.3
50°	950.9	983.5	1050.8	1124.6	1152.9
52.5°	883.6	920.5	996.5	1079.0	1109.4
55°	818.5	853.2	944.4	1033.4	1066.0
57.5°	746.9	790.3	890.2	985.7	1018.2
60°	673.0	720.8	835.9	935.7	970.5
62.5°	599.2	653.5	783.8	883.6	920.5
65°	525.4	586.2	723.0	829.4	866.3
67.5°	453.8	521.1	666.5	772.9	809.8
70°	371.3	455.9	605.7	709.9	746.9
72.5°	295.3	393.0	547.1	644.8	677.4
75°	228.0	332.2	482.0	571.0	584.0
77.5°	167.2	271.4	414.7	445.1	447.2
80°	112.9	217.1	317.0	312.6	317.0
82.5°	73.8	162.8	199.7	223.6	225.8
85°	43.4	95.5	117.2	130.3	132.4
87.5°	21.7	32.6	41.3	43.4	47.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)