

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: P309730

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-5000K**

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: P309730
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-L82765-HRP-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 5035.0 lumens
Efficiency: N/A
Efficacy: 85.2 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

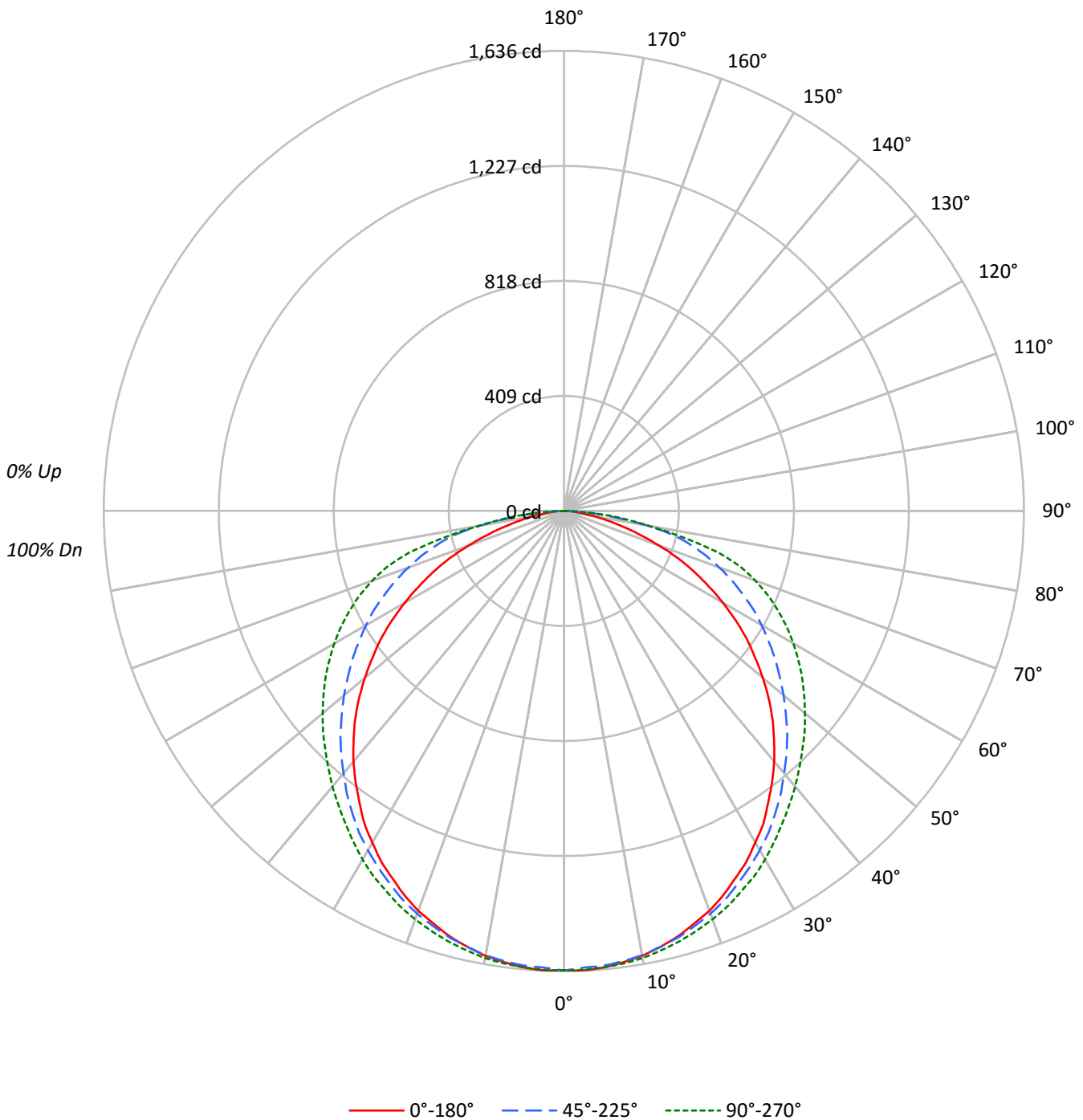
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2198	2198	2198
5°	2201	2192	2201
10°	2194	2192	2206
15°	2182	2187	2208
20°	2167	2182	2212
25°	2140	2172	2216
30°	2116	2165	2224
35°	2081	2154	2226
40°	2044	2140	2247
45°	1997	2138	2282
50°	1933	2135	2343
55°	1864	2151	2428
60°	1758	2184	2535
65°	1624	2235	2677
70°	1418	2314	2853
75°	1150	2433	2948
80°	849	2385	2385
85°	651	1757	1985



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.8	3.1
10°-20°	444.4	8.8
20°-30°	676.5	13.4
30°-40°	821.5	16.3
40°-50°	867.9	17.2
50°-60°	818.9	16.3
60°-70°	680.9	13.5
70°-80°	448.0	8.9
80°-90°	122.1	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°	1275.7	25.3
0°-40°	2097.2	41.7
0°-60°	3784.0	75.2
0°-90°	5035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1634	1634	1634	1634	1634	
5°	1629	1629	1623	1629	1629	155
15°	1566	1568	1570	1585	1585	442
25°	1442	1450	1463	1488	1492	665
35°	1267	1282	1311	1345	1355	793
45°	1050	1071	1124	1178	1199	808
55°	795	828	917	1003	1035	708
65°	510	569	702	805	841	504
75°	221	322	468	554	567	238
85°	42	93	114	126	129	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1633.6	1633.6	1633.6	1633.6	1633.6
2.5°	1635.7	1633.6	1625.2	1633.6	1633.6
5°	1629.4	1629.4	1623.1	1629.4	1629.4
7.5°	1618.9	1618.9	1614.6	1623.1	1623.1
10°	1606.2	1606.2	1604.1	1614.6	1614.6
12.5°	1587.2	1589.3	1587.2	1599.9	1599.9
15°	1566.2	1568.3	1570.4	1585.1	1585.1
17.5°	1538.8	1543.0	1547.2	1564.0	1566.2
20°	1513.5	1515.6	1524.0	1543.0	1545.1
22.5°	1479.7	1486.1	1496.6	1515.6	1521.9
25°	1441.8	1450.2	1462.9	1488.2	1492.4
27.5°	1406.0	1412.3	1429.1	1456.5	1465.0
30°	1361.7	1372.2	1393.3	1420.7	1431.3
32.5°	1319.5	1330.1	1355.4	1384.9	1393.3
35°	1266.8	1281.6	1311.1	1344.8	1355.4
37.5°	1216.2	1231.0	1266.8	1304.8	1317.4
40°	1163.6	1180.4	1218.4	1262.6	1279.5
42.5°	1106.6	1129.8	1172.0	1220.5	1239.4
45°	1049.7	1070.8	1123.5	1178.3	1199.4
47.5°	988.6	1013.9	1070.8	1136.1	1161.4
50°	923.3	954.9	1020.2	1091.9	1119.3
52.5°	857.9	893.7	967.5	1047.6	1077.1
55°	794.7	828.4	916.9	1003.4	1035.0
57.5°	725.1	767.3	864.2	957.0	988.6
60°	653.4	699.8	811.5	908.5	942.2
62.5°	581.8	634.5	760.9	857.9	893.7
65°	510.1	569.1	701.9	805.2	841.0
67.5°	440.5	505.9	647.1	750.4	786.2
70°	360.4	442.7	588.1	689.3	725.1
72.5°	286.7	381.5	531.2	626.0	657.7
75°	221.3	322.5	468.0	554.4	567.0
77.5°	162.3	263.5	402.6	432.1	434.2
80°	109.6	210.8	307.8	303.5	307.8
82.5°	71.7	158.1	193.9	217.1	219.2
85°	42.2	92.7	113.8	126.5	128.6
87.5°	21.1	31.6	40.0	42.2	46.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)