

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: P309733

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-6500K**

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: P309733
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-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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: 5112.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

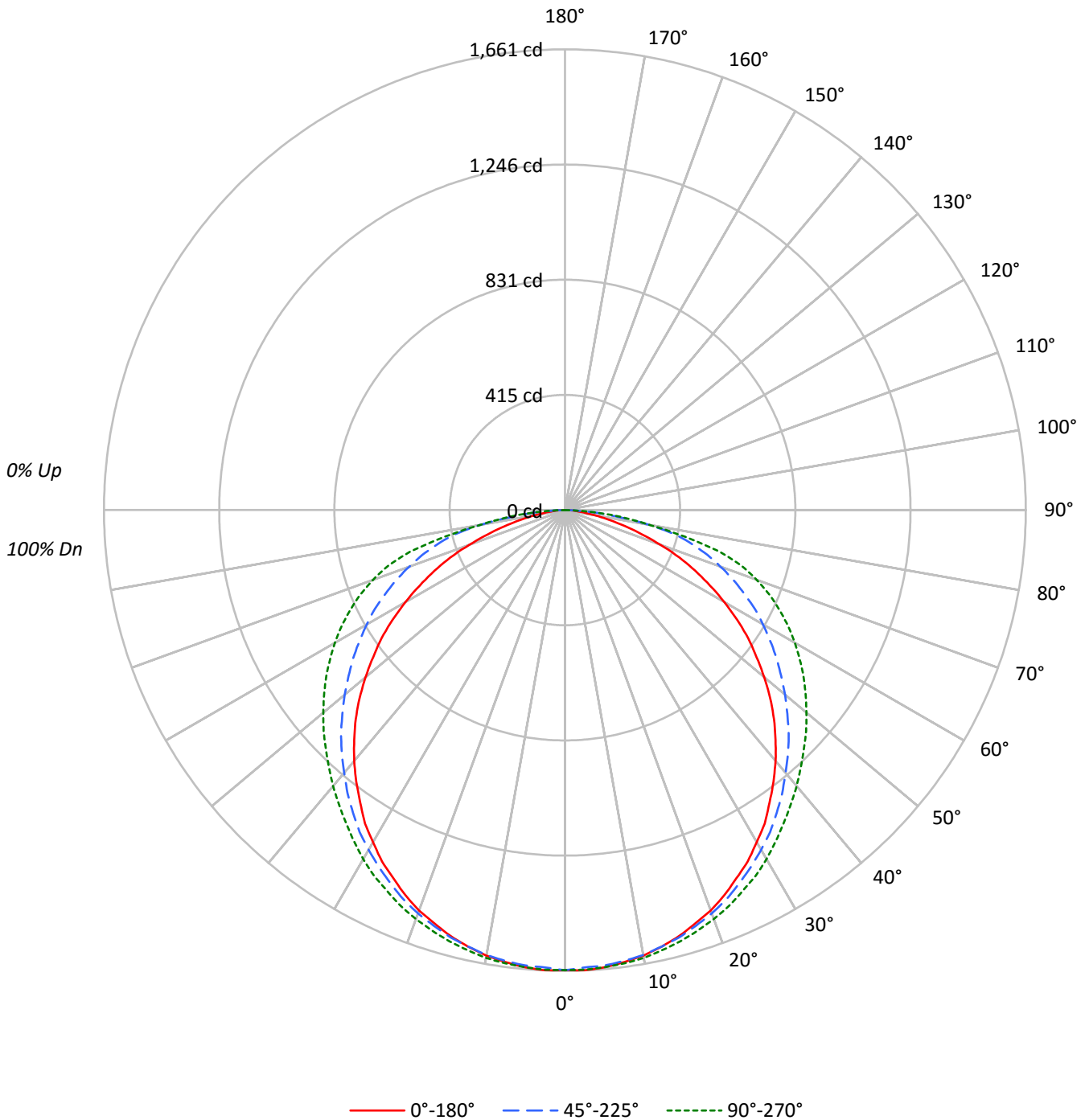
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2232	2232	2232
5°	2234	2226	2234
10°	2228	2225	2240
15°	2215	2221	2242
20°	2200	2215	2246
25°	2173	2205	2249
30°	2148	2198	2258
35°	2113	2187	2260
40°	2075	2173	2282
45°	2028	2171	2317
50°	1962	2168	2379
55°	1893	2184	2465
60°	1785	2217	2574
65°	1649	2269	2719
70°	1440	2349	2896
75°	1168	2470	2993
80°	862	2421	2421
85°	661	1785	2015



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.1	3.1
10°-20°	451.2	8.8
20°-30°	686.9	13.4
30°-40°	834.0	16.3
40°-50°	881.2	17.2
50°-60°	831.5	16.3
60°-70°	691.3	13.5
70°-80°	454.8	8.9
80°-90°	124.0	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°	1295.2	25.3
0°-40°	2129.2	41.7
0°-60°	3841.8	75.2
0°-90°	5112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5112.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1659	1659	1659	1659	1659	
5°	1654	1654	1648	1654	1654	157
15°	1590	1592	1594	1609	1609	448
25°	1464	1472	1485	1511	1515	675
35°	1286	1301	1331	1365	1376	805
45°	1066	1087	1141	1196	1218	821
55°	807	841	931	1019	1051	719
65°	518	578	713	818	854	512
75°	225	327	475	563	576	242
85°	43	94	116	128	130	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1658.6	1658.6	1658.6	1658.6	1658.6
2.5°	1660.7	1658.6	1650.0	1658.6	1658.6
5°	1654.3	1654.3	1647.9	1654.3	1654.3
7.5°	1643.6	1643.6	1639.3	1647.9	1647.9
10°	1630.8	1630.8	1628.6	1639.3	1639.3
12.5°	1611.5	1613.6	1611.5	1624.4	1624.4
15°	1590.1	1592.2	1594.4	1609.4	1609.4
17.5°	1562.3	1566.6	1570.8	1588.0	1590.1
20°	1536.6	1538.7	1547.3	1566.6	1568.7
22.5°	1502.4	1508.8	1519.5	1538.7	1545.2
25°	1463.8	1472.4	1485.2	1510.9	1515.2
27.5°	1427.5	1433.9	1451.0	1478.8	1487.4
30°	1382.5	1393.2	1414.6	1442.4	1453.1
32.5°	1339.7	1350.4	1376.1	1406.1	1414.6
35°	1286.2	1301.2	1331.2	1365.4	1376.1
37.5°	1234.8	1249.8	1286.2	1324.7	1337.6
40°	1181.3	1198.5	1237.0	1281.9	1299.1
42.5°	1123.6	1147.1	1189.9	1239.1	1258.4
45°	1065.8	1087.2	1140.7	1196.3	1217.7
47.5°	1003.7	1029.4	1087.2	1153.5	1179.2
50°	937.4	969.5	1035.8	1108.6	1136.4
52.5°	871.0	907.4	982.3	1063.6	1093.6
55°	806.8	841.1	931.0	1018.7	1050.8
57.5°	736.2	779.0	877.4	971.6	1003.7
60°	663.4	710.5	823.9	922.4	956.6
62.5°	590.7	644.2	772.6	871.0	907.4
65°	517.9	577.8	712.7	817.5	853.9
67.5°	447.3	513.6	657.0	761.9	798.3
70°	366.0	449.4	597.1	699.8	736.2
72.5°	291.1	387.4	539.3	635.6	667.7
75°	224.7	327.4	475.1	562.9	575.7
77.5°	164.8	267.5	408.8	438.7	440.9
80°	111.3	214.0	312.5	308.2	312.5
82.5°	72.8	160.5	196.9	220.4	222.6
85°	42.8	94.2	115.6	128.4	130.5
87.5°	21.4	32.1	40.7	42.8	47.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)