

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: P309679

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP250-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: P309679
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: 24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB 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: 4058.0 lumens
Efficiency: N/A
Efficacy: 81.7 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

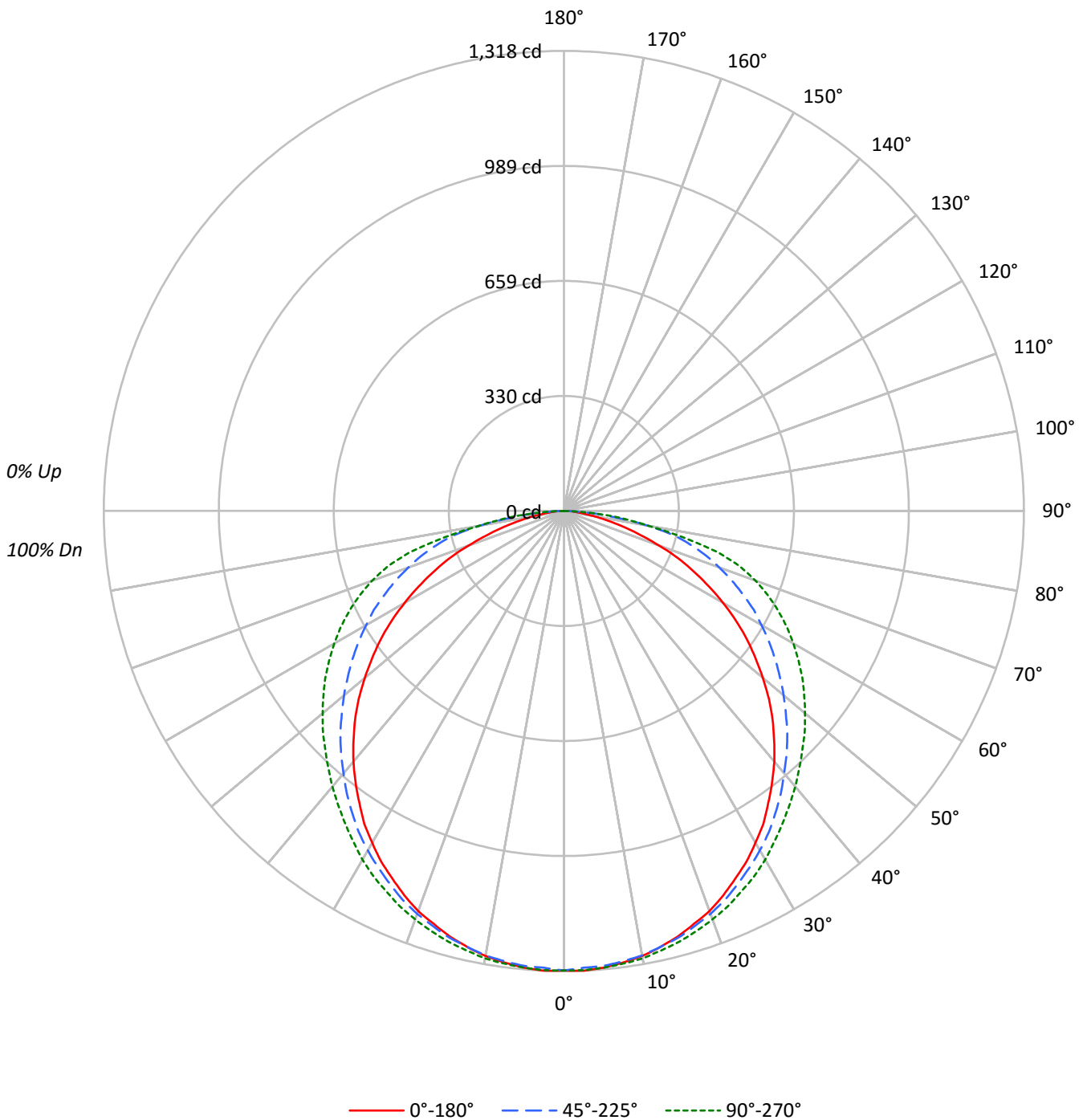
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1771	1771	1771
5°	1774	1767	1774
10°	1769	1766	1778
15°	1758	1763	1779
20°	1747	1759	1783
25°	1725	1750	1786
30°	1705	1745	1792
35°	1677	1736	1794
40°	1647	1725	1811
45°	1610	1723	1839
50°	1558	1721	1888
55°	1502	1734	1957
60°	1417	1760	2044
65°	1309	1801	2158
70°	1143	1865	2299
75°	927	1960	2376
80°	684	1922	1922
85°	525	1416	1599



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.7	3.1
10°-20°	358.2	8.8
20°-30°	545.3	13.4
30°-40°	662.1	16.3
40°-50°	699.5	17.2
50°-60°	660.0	16.3
60°-70°	548.8	13.5
70°-80°	361.1	8.9
80°-90°	98.4	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°	1028.1	25.3
0°-40°	1690.2	41.7
0°-60°	3049.7	75.2
0°-90°	4058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4058.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1317	1317	1317	1317	1317	
5°	1313	1313	1308	1313	1313	125
15°	1262	1264	1266	1278	1278	356
25°	1162	1169	1179	1199	1203	536
35°	1021	1033	1057	1084	1092	639
45°	846	863	906	950	967	652
55°	640	668	739	809	834	570
65°	411	459	566	649	678	406
75°	178	260	377	447	457	192
85°	34	75	92	102	104	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1316.6	1316.6	1316.6	1316.6	1316.6
2.5°	1318.3	1316.6	1309.8	1316.6	1316.6
5°	1313.2	1313.2	1308.1	1313.2	1313.2
7.5°	1304.7	1304.7	1301.3	1308.1	1308.1
10°	1294.5	1294.5	1292.8	1301.3	1301.3
12.5°	1279.2	1280.9	1279.2	1289.4	1289.4
15°	1262.3	1264.0	1265.7	1277.5	1277.5
17.5°	1240.2	1243.6	1247.0	1260.6	1262.3
20°	1219.8	1221.5	1228.3	1243.6	1245.3
22.5°	1192.6	1197.7	1206.2	1221.5	1226.6
25°	1162.0	1168.8	1179.0	1199.4	1202.8
27.5°	1133.1	1138.2	1151.8	1173.9	1180.7
30°	1097.5	1106.0	1123.0	1145.0	1153.5
32.5°	1063.5	1072.0	1092.4	1116.2	1123.0
35°	1021.0	1032.9	1056.7	1083.9	1092.4
37.5°	980.2	992.1	1021.0	1051.6	1061.8
40°	937.8	951.4	981.9	1017.6	1031.2
42.5°	891.9	910.6	944.6	983.6	998.9
45°	846.0	863.0	905.5	949.7	966.7
47.5°	796.8	817.2	863.0	915.7	936.1
50°	744.1	769.6	822.3	880.0	902.1
52.5°	691.4	720.3	779.8	844.3	868.1
55°	640.5	667.7	739.0	808.7	834.1
57.5°	584.4	618.4	696.5	771.3	796.8
60°	526.6	564.0	654.1	732.2	759.4
62.5°	468.9	511.4	613.3	691.4	720.3
65°	411.1	458.7	565.7	649.0	677.8
67.5°	355.1	407.7	521.6	604.8	633.7
70°	290.5	356.8	474.0	555.5	584.4
72.5°	231.0	307.5	428.1	504.6	530.0
75°	178.4	259.9	377.1	446.8	457.0
77.5°	130.8	212.4	324.5	348.3	350.0
80°	88.3	169.9	248.0	244.6	248.0
82.5°	57.8	127.4	156.3	175.0	176.7
85°	34.0	74.8	91.7	101.9	103.6
87.5°	17.0	25.5	32.3	34.0	37.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)