

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: METALUX

Report Number: P276404

Luminaire Tested: **24CZ2-45HE-S-UNV-L93050-W2A1-U-4000K**

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: P276404
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: METALUX
Catalog Number: 24CZ2-45HE-S-UNV-L93050-W2A1-U-4000K
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH SMOOTH LENS
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment: Sample No. Condition Description

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4092.5 lumens
Efficiency: N/A
Efficacy: 126.9 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

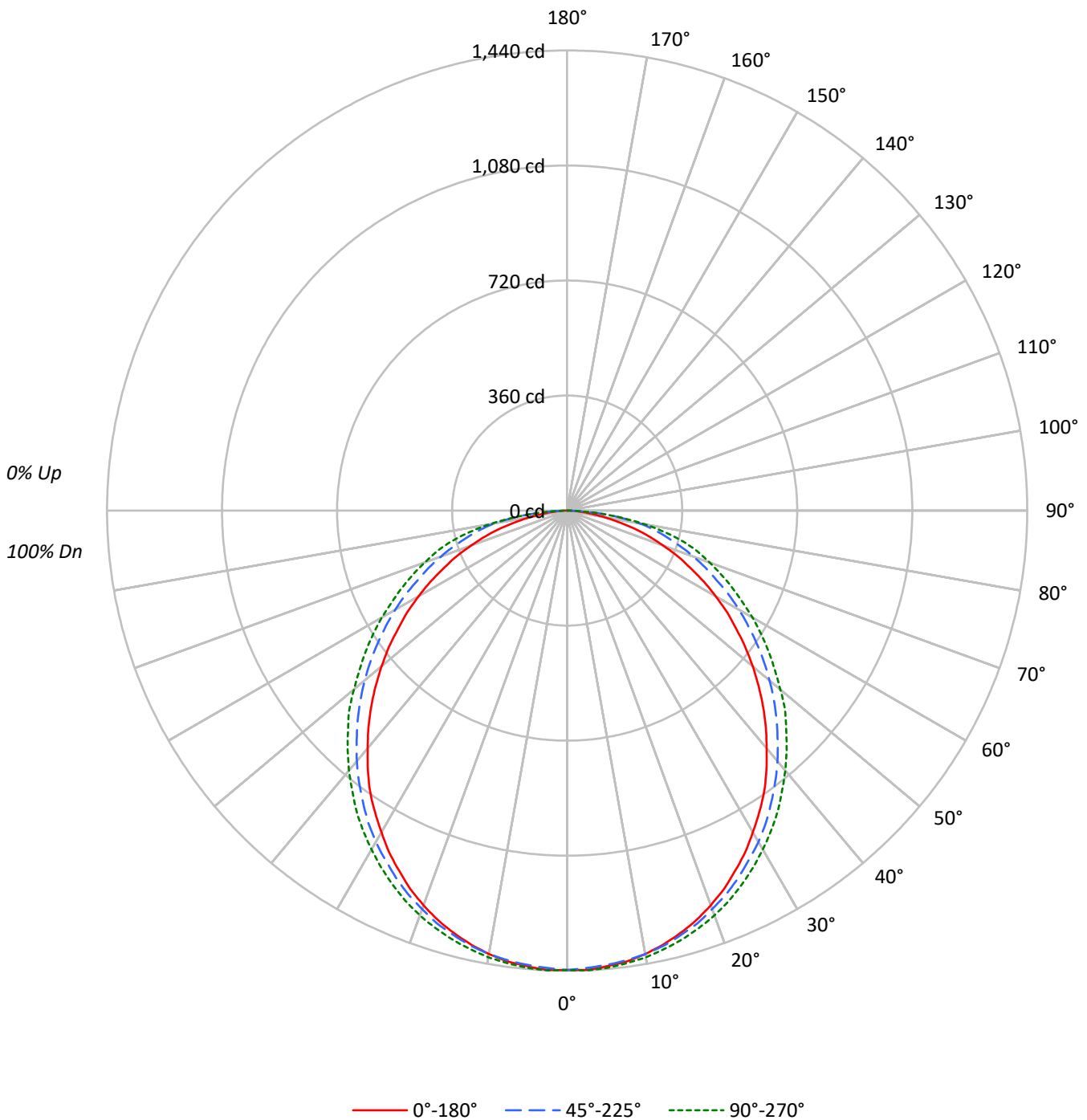
Input Watts (W): 32.251284
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1934	1934	1934
5°	1933	1928	1940
10°	1925	1925	1939
15°	1907	1916	1936
20°	1882	1900	1930
25°	1847	1882	1918
30°	1805	1860	1902
35°	1766	1830	1887
40°	1705	1799	1865
45°	1650	1764	1845
50°	1586	1731	1823
55°	1516	1699	1805
60°	1445	1672	1802
65°	1353	1643	1813
70°	1253	1652	1862
75°	1122	1683	1967
80°	907	1783	1924
85°	682	1565	1525



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.1	3.3
10°-20°	388.9	9.5
20°-30°	584.6	14.3
30°-40°	696.4	17.0
40°-50°	712.7	17.4
50°-60°	641.7	15.7
60°-70°	503.9	12.3
70°-80°	327.1	8.0
80°-90°	101.2	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°	1109.6	27.1
0°-40°	1806.0	44.1
0°-60°	3160.4	77.2
0°-90°	4092.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4092.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1438	1438	1438	1438	1438	
5°	1431	1434	1427	1435	1436	136
15°	1369	1373	1375	1387	1390	386
25°	1244	1254	1267	1288	1292	573
35°	1075	1088	1114	1141	1149	671
45°	867	888	927	962	970	668
55°	646	675	724	762	770	579
65°	425	458	516	559	569	423
75°	216	257	324	368	378	228
85°	44	82	101	99	99	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1437.7	1437.7	1437.7	1437.7	1437.7
2.5°	1439.0	1439.0	1432.5	1439.0	1440.3
5°	1431.2	1433.8	1427.3	1435.1	1436.4
7.5°	1423.4	1423.4	1419.5	1427.3	1428.6
10°	1409.1	1410.4	1409.1	1418.2	1419.5
12.5°	1390.9	1393.5	1394.8	1403.9	1405.2
15°	1368.8	1372.7	1375.3	1387.0	1389.6
17.5°	1344.1	1348.0	1354.5	1367.5	1370.1
20°	1314.2	1319.4	1327.2	1344.1	1348.0
22.5°	1281.7	1286.9	1299.9	1315.5	1322.0
25°	1244.0	1254.4	1267.4	1288.2	1292.1
27.5°	1206.3	1215.4	1232.3	1254.4	1259.6
30°	1162.1	1176.4	1197.2	1219.3	1224.5
32.5°	1119.2	1133.5	1158.2	1181.6	1188.1
35°	1075.0	1088.0	1114.0	1141.3	1149.1
37.5°	1024.3	1041.2	1069.8	1097.1	1104.9
40°	971.0	991.8	1024.3	1052.9	1062.0
42.5°	920.4	942.4	974.9	1006.1	1016.5
45°	867.1	887.9	926.9	961.9	969.7
47.5°	812.5	835.9	877.5	912.6	925.6
50°	757.9	782.6	826.8	863.2	871.0
52.5°	703.3	729.3	776.1	815.1	819.0
55°	646.1	674.7	724.1	761.8	769.6
57.5°	594.1	618.8	672.1	711.1	720.2
60°	536.9	564.2	621.4	657.8	669.5
62.5°	482.3	510.9	570.7	607.1	617.5
65°	425.1	457.6	516.1	559.0	569.4
67.5°	375.7	406.9	469.3	510.9	521.3
70°	318.5	353.6	419.9	462.8	473.2
72.5°	269.1	305.5	371.8	413.4	429.0
75°	215.8	257.4	323.7	367.9	378.3
77.5°	163.8	211.9	279.5	313.3	313.3
80°	117.0	167.7	230.1	245.7	248.3
82.5°	76.7	126.1	170.3	169.0	169.0
85°	44.2	81.9	101.4	98.8	98.8
87.5°	16.9	33.8	36.4	36.4	35.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)