

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: NEO-RAY

Report Number: P231548

Luminaire Tested: **S122-DR-1-30-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231548
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1612-022-4)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122-DR-1-30-X-0048-1-U-DD-3-W
Description: DEFINE 2 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2763.3 lumens
Efficiency: N/A
Efficacy: 99.0 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.03 / 1.18
Luminous Opening: Rectangular (W 3.92' x L: 0.14' x H: 0')
CIE Type: Direct

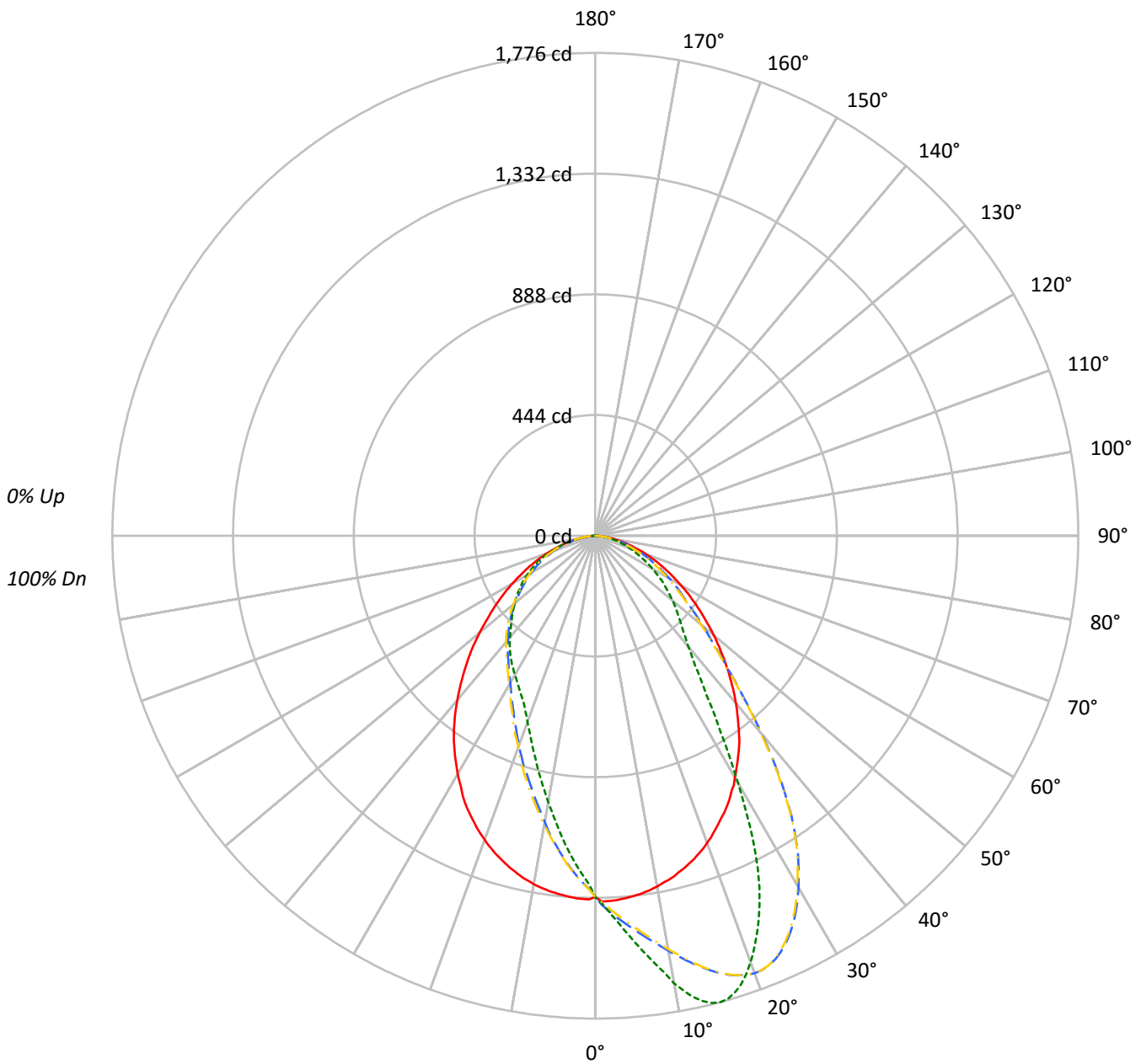
Input Watts (W): 27.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	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					100			
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	86	82	88	84	80	85	81	78	82	79	76	74					74			
3	93	84	76	70	91	82	75	70	79	73	68	76	72	67	74	70	66	64					64			
4	86	75	67	61	84	74	66	60	71	65	60	69	63	59	67	62	58	56					56			
5	80	68	59	53	78	67	59	53	65	58	53	63	57	52	61	56	51	49					49			
6	74	62	53	47	72	61	53	47	59	52	47	57	51	46	56	50	46	44					44			
7	69	56	48	42	67	56	48	42	54	47	42	53	46	42	51	46	41	40					40			
8	64	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	60	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	26077	26077	26077	26077
5°	26338	29201	26160	22840
10°	26106	33328	25943	19821
15°	25708	36101	25480	17270
20°	25101	34865	24853	15229
25°	24332	30904	24057	13981
30°	23268	23739	22946	13398
35°	22133	17024	21740	13022
40°	20610	13620	20229	12492
45°	18997	12190	18644	12065
50°	17346	11336	16958	11837
55°	15740	10486	15332	11609
60°	14251	9513	13812	11413
65°	12848	8588	12360	10943
70°	11422	7788	10825	10096
75°	9784	6955	9101	9101
80°	8094	5980	7167	7337
85°	6216	5203	5383	5045



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	4.6
10°-20°	362.1	13.1
20°-30°	513.4	18.6
30°-40°	527.8	19.1
40°-50°	462.5	16.7
50°-60°	367.8	13.3
60°-70°	248.0	9.0
70°-80°	125.6	4.5
80°-90°	30.1	1.1
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°	1001.4	36.2
0°-40°	1529.2	55.3
0°-60°	2359.6	85.4
0°-90°	2763.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2763.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1328	1328	1328	1328	1328	
5°	1337	1482	1328	1159	1337	127
15°	1265	1776	1254	850	1265	356
25°	1123	1427	1111	646	1123	516
35°	924	710	907	543	924	575
45°	684	439	672	435	684	528
55°	460	306	448	339	460	413
65°	277	185	266	236	277	275
75°	129	92	120	120	129	138
85°	28	23	24	22	28	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4
1°	1345.5	1346.2	1357.4	1367.1	1351.5	1348.5	1347.7	1331.3	1338.1	1309.7	1300.0
2°	1344.8	1357.4	1379.8	1396.2	1381.3	1376.1	1368.6	1341.0	1336.6	1296.3	1277.7
3°	1343.3	1368.6	1401.4	1424.5	1413.3	1403.6	1390.2	1351.5	1335.1	1282.9	1256.1
4°	1340.3	1377.6	1421.5	1452.8	1446.9	1432.0	1411.1	1361.2	1332.1	1268.0	1232.2
5°	1336.6	1387.2	1442.4	1483.4	1481.9	1461.0	1432.7	1370.1	1327.6	1254.6	1206.9
6°	1332.8	1395.4	1463.3	1514.0	1518.4	1491.6	1453.6	1378.3	1323.9	1238.2	1180.8
7°	1328.4	1402.9	1484.9	1547.5	1555.0	1523.7	1475.2	1386.5	1319.4	1221.8	1153.9
8°	1323.1	1411.1	1506.5	1580.3	1590.8	1556.5	1497.6	1393.2	1314.2	1204.6	1127.1
9°	1317.2	1417.8	1528.1	1614.6	1627.3	1588.5	1520.7	1399.9	1308.2	1186.7	1101.0
10°	1309.7	1424.5	1550.5	1647.4	1672.0	1627.3	1543.8	1405.9	1301.5	1168.1	1068.2
11°	1301.5	1430.5	1572.9	1678.7	1705.5	1657.8	1566.9	1412.6	1293.3	1148.7	1040.6
12°	1294.1	1436.4	1595.2	1708.5	1734.6	1686.2	1590.8	1417.1	1285.1	1128.6	1014.5
13°	1285.9	1440.9	1616.8	1733.9	1757.0	1712.3	1613.1	1420.8	1274.7	1107.7	988.4
14°	1274.7	1446.1	1637.7	1754.0	1771.1	1734.6	1634.7	1425.3	1265.0	1086.8	962.4
15°	1265.0	1449.9	1657.1	1766.7	1776.4	1750.3	1654.9	1430.5	1253.8	1065.2	937.0
16°	1253.8	1454.3	1674.2	1771.9	1771.1	1756.2	1672.0	1433.5	1241.9	1042.9	911.7
17°	1243.4	1457.3	1689.1	1768.2	1756.2	1751.8	1687.7	1437.2	1230.7	1021.2	893.0
18°	1229.2	1460.3	1700.3	1755.5	1734.6	1742.8	1699.6	1438.7	1218.0	998.9	868.4
19°	1217.3	1463.3	1708.5	1735.4	1704.8	1722.7	1708.5	1440.9	1204.6	976.5	843.8
20°	1201.6	1464.8	1712.3	1707.8	1669.0	1694.4	1712.3	1441.7	1189.7	948.2	820.0
21°	1188.2	1465.5	1710.8	1675.0	1628.8	1660.8	1710.8	1442.4	1175.5	925.8	797.6
22°	1170.3	1466.3	1704.1	1637.0	1584.0	1622.8	1703.3	1443.2	1159.9	903.5	774.5
23°	1154.7	1466.3	1692.9	1596.0	1536.3	1581.1	1689.9	1443.2	1143.5	879.6	753.6
24°	1137.5	1465.5	1675.7	1552.7	1484.2	1538.6	1672.0	1442.4	1127.1	862.5	732.8
25°	1123.4	1464.0	1654.9	1506.5	1426.8	1493.8	1650.4	1440.9	1110.7	839.4	712.6
26°	1105.5	1461.0	1630.3	1456.6	1361.9	1444.6	1624.3	1438.7	1092.8	817.0	694.0
27°	1086.8	1458.1	1601.2	1401.4	1289.6	1390.2	1595.2	1435.7	1074.2	794.6	675.4
28°	1066.0	1453.6	1569.1	1338.8	1210.6	1327.6	1561.7	1430.5	1051.1	773.0	658.2
29°	1049.6	1448.4	1533.4	1271.7	1128.6	1256.8	1524.4	1426.0	1030.9	751.4	641.1
30°	1026.5	1442.4	1494.6	1198.7	1047.3	1182.3	1484.9	1420.0	1012.3	730.5	624.7
32.5°	975.0	1420.0	1386.5	1011.6	859.5	992.2	1383.5	1398.4	960.1	679.8	589.6
35°	923.6	1389.5	1257.5	825.2	710.4	821.5	1253.1	1369.4	907.2	632.1	558.3
37.5°	862.5	1348.5	1107.7	700.0	603.8	685.8	1101.7	1329.9	849.8	585.2	529.3
40°	804.3	1298.5	952.7	597.1	531.5	587.4	946.0	1280.7	789.4	542.7	500.2
42.5°	743.9	1238.2	808.0	524.0	479.3	517.3	801.3	1219.5	729.8	503.9	471.1
45°	684.3	1166.6	685.8	466.6	439.1	465.1	679.8	1148.7	671.6	466.6	442.8
47.5°	625.4	1085.3	589.6	427.9	404.0	422.7	582.2	1066.7	613.5	431.6	414.5
50°	568.0	993.7	513.6	390.6	371.2	386.1	505.4	968.3	555.3	398.1	384.6
52.5°	512.1	905.0	452.5	354.8	336.2	352.6	442.8	872.9	499.4	365.3	354.8
55°	459.9	803.6	397.3	321.3	306.4	318.3	391.4	775.2	448.0	334.0	326.5
57.5°	410.7	702.9	356.3	287.7	273.6	284.8	345.1	671.6	399.6	303.4	298.2
60°	363.0	606.0	313.8	254.2	242.3	252.0	304.1	574.0	351.8	272.1	271.3
62.5°	318.3	515.1	275.1	222.9	213.2	221.4	265.4	486.0	307.1	242.3	243.8
65°	276.6	432.4	236.3	195.3	184.9	192.3	229.6	407.8	266.1	213.2	216.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	236.3	351.8	205.0	165.5	159.5	164.0	196.0	334.0	225.9	181.9	187.1
70°	199.0	287.7	170.0	140.1	135.7	138.7	160.3	269.8	188.6	154.3	160.3
72.5°	161.8	231.1	140.1	117.0	112.6	114.8	132.7	214.7	152.1	127.5	134.2
75°	129.0	178.9	112.6	94.7	91.7	92.4	106.6	162.5	120.0	102.1	108.1
77.5°	98.4	133.4	87.2	73.8	71.6	72.3	81.3	119.3	90.2	78.3	82.7
80°	71.6	93.9	64.1	54.4	52.9	52.9	58.9	82.7	63.4	55.9	59.6
82.5°	47.7	61.9	44.7	38.0	36.5	36.5	39.5	52.2	40.3	36.5	39.5
85°	27.6	36.5	27.6	23.1	23.1	22.4	23.9	28.3	23.9	20.1	21.6
87.5°	13.4	16.4	13.4	11.2	11.2	9.7	10.4	10.4	8.2	6.7	6.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4
1°	1299.3	1283.6	1290.3	1301.5	1312.0	1345.5
2°	1270.2	1252.3	1262.0	1279.2	1300.0	1344.8
3°	1241.1	1222.5	1234.4	1258.3	1286.6	1343.3
4°	1209.1	1191.2	1203.1	1235.2	1273.2	1340.3
5°	1176.3	1159.1	1171.1	1210.6	1259.0	1336.6
6°	1144.2	1125.6	1139.0	1185.2	1244.1	1332.8
7°	1111.4	1091.3	1107.0	1159.1	1229.2	1328.4
8°	1080.1	1057.8	1076.4	1132.3	1212.1	1323.1
9°	1048.8	1025.7	1045.1	1106.2	1190.5	1317.2
10°	1018.3	994.4	1013.8	1080.1	1171.1	1309.7
11°	988.4	964.6	984.0	1054.0	1151.7	1301.5
12°	959.4	934.8	954.9	1028.0	1133.1	1294.1
13°	930.3	906.4	928.1	1002.6	1112.2	1285.9
14°	902.7	878.1	902.0	977.3	1092.1	1274.7
15°	875.1	849.8	875.9	951.9	1069.7	1265.0
16°	848.3	823.7	849.8	927.3	1048.1	1253.8
17°	823.0	797.6	824.4	903.5	1025.7	1243.4
18°	798.4	773.0	798.4	879.6	1007.8	1229.2
19°	773.0	750.6	773.8	856.5	984.7	1217.3
20°	750.6	729.0	749.9	827.4	960.9	1201.6
21°	729.8	708.2	728.3	805.1	937.8	1188.2
22°	709.7	689.5	707.4	787.9	914.6	1170.3
23°	690.3	672.4	688.0	764.8	892.3	1154.7
24°	672.4	658.2	670.9	743.2	869.9	1137.5
25°	656.7	645.5	655.2	722.3	847.6	1123.4
26°	643.3	633.6	641.8	702.9	824.4	1105.5
27°	630.6	622.4	630.6	684.3	802.1	1086.8
28°	619.5	611.3	618.7	667.2	780.5	1066.0
29°	608.3	600.8	605.3	650.0	758.8	1049.6
30°	597.1	591.1	594.9	634.4	738.0	1026.5
32.5°	570.3	567.3	569.5	597.8	687.3	975.0
35°	544.2	543.4	545.7	567.3	639.6	923.6
37.5°	518.1	516.6	520.3	538.9	594.1	862.5
40°	490.5	487.5	492.7	511.4	553.1	804.3
42.5°	460.7	459.9	464.4	483.0	514.3	743.9
45°	432.4	434.6	436.8	454.0	477.1	684.3
47.5°	405.5	410.7	410.0	424.2	443.5	625.4
50°	380.2	387.6	384.6	393.6	410.7	568.0
52.5°	355.6	365.3	360.0	363.0	378.7	512.1
55°	331.7	339.2	336.9	333.2	348.1	459.9
57.5°	306.4	316.8	312.3	305.6	317.6	410.7
60°	280.3	290.7	286.2	277.3	286.2	363.0
62.5°	254.2	264.6	260.2	249.7	255.7	318.3
65°	228.1	235.6	234.1	223.6	225.9	276.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	201.3	208.7	205.7	196.0	196.0	236.3
70°	172.2	175.9	175.9	167.7	165.5	199.0
72.5°	141.6	147.6	146.1	140.9	137.9	161.8
75°	115.5	120.0	121.5	114.8	111.1	129.0
77.5°	89.5	92.4	95.4	89.5	86.5	98.4
80°	63.4	64.9	69.3	65.6	64.1	71.6
82.5°	41.0	42.5	45.5	44.7	44.0	47.7
85°	21.6	22.4	25.3	26.1	26.1	27.6
87.5°	6.0	7.5	8.9	10.4	11.9	13.4
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)