

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: P199489

Luminaire Tested: **S124-DIP-U2-2-30-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199489  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28062)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124-DIP-U2-2-30-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LL2-3000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL2-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8169.7 lumens  
Efficiency: N/A  
Efficacy: 101.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: General Diffuse

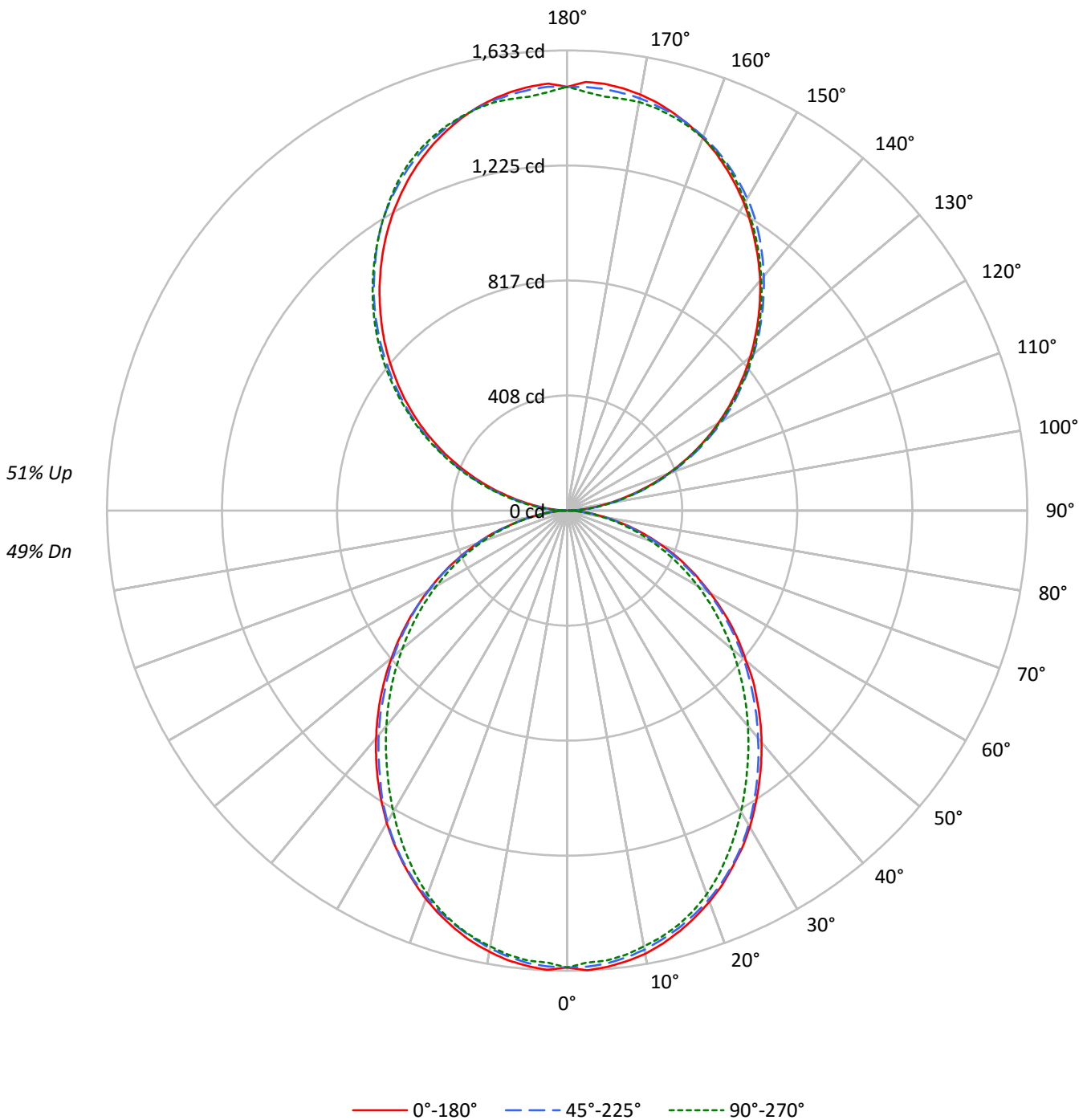
Input Watts (W): 80.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	55	55	55	49
1	98	93	90	86	90	86	83	80	73	70	68	60	59	57	49	48	47	42
2	89	82	76	70	82	75	70	66	64	60	57	53	50	48	43	41	40	35
3	81	72	65	59	75	66	60	55	56	52	48	47	44	41	38	36	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	34	32	29	26
5	68	57	49	43	63	53	45	40	45	39	35	38	34	30	31	28	26	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	17
8	54	42	34	29	50	39	32	27	34	28	24	28	24	21	24	20	18	16
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	12822	12822	12822
5°	12799	11583	12776
10°	12618	10523	12564
15°	12344	9577	12282
20°	12030	8651	11942
25°	11647	7714	11540
30°	11246	6832	11102
35°	10768	6019	10617
40°	10287	5299	10109
45°	9770	4638	9578
50°	9185	4014	9022
55°	8663	3432	8435
60°	8013	2876	7785
65°	7371	2333	7080
70°	6551	1795	6244
75°	5509	1262	5109
80°	4138	768	3875
85°	2430	340	2302



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.6	1.9
10°-20°	430.3	5.3
20°-30°	630.4	7.7
30°-40°	722.5	8.8
40°-50°	712.3	8.7
50°-60°	614.0	7.5
60°-70°	447.7	5.5
70°-80°	244.1	3.0
80°-90°	64.1	0.8
90°-100°	77.4	0.9
100°-110°	280.3	3.4
110°-120°	496.3	6.1
120°-130°	659.8	8.1
130°-140°	742.0	9.1
140°-150°	729.5	8.9
150°-160°	615.7	7.5
160°-170°	408.4	5.0
170°-180°	142.3	1.7
0°-30°	1213.4	14.9
0°-40°	1935.9	23.7
0°-60°	3262.1	39.9
0°-90°	4018.0	49.2
90°-120°	854.0	10.5
90°-150°	2985.3	36.5
90°-180°	4152.0	50.8
0°-180°	8169.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1621	1621	1621	1621	1621	
5°	1625	1614	1603	1612	1622	154
15°	1545	1533	1522	1525	1537	435
25°	1392	1388	1348	1376	1379	641
35°	1187	1174	1114	1158	1170	743
45°	954	934	881	918	935	736
55°	711	699	649	684	692	634
65°	472	461	425	449	453	466
75°	242	233	215	224	224	257
85°	55	56	52	53	52	62
90°	2	4	3	4	2	8
95°	65	72	70	66	50	71
105°	260	272	269	263	242	276
115°	501	514	505	498	479	495
125°	733	750	743	732	711	656
135°	959	977	968	960	930	740
145°	1164	1189	1171	1170	1136	728
155°	1338	1353	1348	1338	1314	616
165°	1460	1457	1448	1447	1443	412
175°	1520	1502	1475	1500	1510	144
180°	1504	1504	1504	1504	1504	



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CATALOG NUMBER: S124-DIP-U2-2-30-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3	1621.3
2.5°	1633.1	1614.4	1620.3	1616.4	1605.6	1616.4	1619.3	1613.5	1631.1
5°	1625.2	1607.6	1613.5	1607.6	1602.7	1606.6	1611.5	1604.6	1622.3
7.5°	1613.5	1594.8	1599.7	1594.8	1589.9	1593.8	1596.8	1590.9	1609.5
10°	1596.8	1577.2	1582.1	1576.2	1570.3	1574.2	1577.2	1571.3	1589.9
12.5°	1573.3	1554.6	1558.6	1554.6	1549.7	1550.7	1552.7	1546.8	1566.4
15°	1544.8	1526.2	1533.1	1529.2	1522.3	1526.2	1525.2	1518.4	1537.0
17.5°	1512.5	1494.8	1502.7	1498.8	1489.0	1494.8	1494.8	1484.1	1503.7
20°	1477.2	1458.6	1469.4	1459.6	1448.8	1454.7	1459.6	1446.8	1466.4
22.5°	1438.0	1418.4	1431.1	1413.5	1401.7	1408.6	1420.3	1406.6	1424.3
25°	1391.9	1376.2	1388.0	1363.5	1347.8	1357.6	1376.2	1362.5	1379.2
27.5°	1346.8	1331.1	1340.9	1313.5	1291.9	1304.7	1328.2	1316.4	1331.1
30°	1296.8	1284.1	1289.0	1256.7	1234.1	1247.8	1275.3	1268.4	1280.2
32.5°	1241.9	1232.1	1232.1	1197.8	1174.3	1190.0	1219.4	1217.4	1225.3
35°	1187.1	1181.2	1174.3	1137.1	1114.5	1129.2	1157.6	1165.5	1170.4
37.5°	1131.2	1127.3	1114.5	1078.2	1056.7	1072.4	1098.8	1110.6	1113.5
40°	1073.3	1071.4	1053.7	1019.4	997.9	1013.6	1041.0	1055.7	1054.7
42.5°	1014.5	1016.5	994.9	961.6	940.0	955.7	981.2	1000.8	995.9
45°	953.8	959.6	934.2	903.8	881.2	897.9	918.5	943.0	935.1
47.5°	894.9	901.8	875.3	844.0	822.4	840.1	860.6	887.1	875.3
50°	828.3	842.0	816.5	785.2	763.6	780.3	804.8	827.3	813.6
52.5°	770.5	780.3	757.7	727.3	706.7	720.5	745.0	767.5	752.8
55°	710.7	721.4	698.9	668.5	648.9	662.6	684.2	706.7	692.0
57.5°	647.9	658.7	638.1	610.7	592.1	606.8	629.3	645.0	631.3
60°	587.2	600.9	578.3	551.9	536.2	547.9	565.6	584.2	570.5
62.5°	528.3	541.1	519.5	495.0	480.3	491.1	509.7	524.4	511.7
65°	471.5	479.3	460.7	438.2	425.4	432.3	448.9	465.6	452.9
67.5°	413.7	421.5	402.9	383.3	370.5	377.4	391.1	406.8	395.0
70°	354.8	361.7	346.0	328.4	317.6	324.5	337.2	349.0	338.2
72.5°	299.0	303.9	289.2	275.4	267.6	272.5	281.3	292.1	287.2
75°	242.1	248.0	233.3	221.5	214.7	216.6	223.5	232.3	224.5
77.5°	188.2	194.1	182.3	173.5	169.6	170.6	175.5	182.3	172.5
80°	138.2	143.1	136.3	128.4	124.5	126.4	129.4	133.3	129.4
82.5°	93.1	98.0	93.1	88.2	85.3	87.2	88.2	90.2	87.2
85°	54.9	58.8	55.9	52.9	52.0	52.0	52.9	54.9	52.0
87.5°	24.5	27.4	25.5	23.5	20.6	21.6	22.5	24.5	22.5
90°	2.0	4.9	3.9	2.9	2.9	2.9	3.9	4.9	2.0
92.5°	29.4	33.3	34.3	31.4	31.4	30.4	28.4	27.4	17.6
95°	64.7	70.6	71.6	71.6	69.6	67.6	65.7	60.8	50.0
97.5°	104.9	111.7	113.7	111.7	112.7	110.8	105.9	101.0	90.2
100°	151.0	159.8	161.7	159.8	160.8	155.9	153.9	149.0	136.3
102.5°	201.9	212.7	213.7	211.7	211.7	207.8	205.8	200.0	187.2
105°	259.8	271.5	272.5	268.6	268.6	264.7	262.7	256.8	242.1
107.5°	318.6	330.3	330.3	326.4	326.4	323.5	319.6	315.6	300.9
110°	379.3	389.1	391.1	386.2	385.2	382.3	378.4	372.5	359.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	440.1	449.9	451.9	446.0	445.0	439.1	438.2	431.3	418.6
115°	500.9	510.7	513.6	506.8	504.8	498.0	498.0	491.1	479.3
117.5°	559.7	571.5	574.4	566.6	565.6	559.7	555.8	549.9	537.2
120°	618.5	633.2	635.2	626.4	625.4	618.5	616.6	608.7	596.0
122.5°	677.3	692.0	695.0	687.1	684.2	675.4	674.4	667.5	653.8
125°	733.2	749.9	749.9	746.0	743.0	736.1	732.2	724.4	710.7
127.5°	791.0	808.7	807.7	804.8	801.8	792.0	789.1	781.2	766.5
130°	847.9	863.6	863.6	861.6	859.7	850.8	845.9	838.1	821.4
132.5°	903.8	919.5	921.4	916.5	914.6	902.8	903.8	894.0	877.3
135°	958.7	972.4	977.3	969.4	968.5	955.7	959.6	946.9	930.2
137.5°	1012.6	1023.4	1032.2	1022.4	1021.4	1008.7	1014.5	997.9	983.2
140°	1065.5	1074.3	1086.1	1074.3	1072.4	1060.6	1066.5	1048.8	1036.1
142.5°	1115.5	1123.3	1138.0	1125.3	1122.4	1111.6	1118.4	1097.9	1086.1
145°	1163.5	1169.4	1189.0	1175.3	1171.4	1161.6	1170.4	1144.9	1136.1
147.5°	1211.6	1214.5	1237.0	1224.3	1218.4	1210.6	1219.4	1191.0	1184.1
150°	1256.7	1256.7	1279.2	1269.4	1264.5	1255.7	1261.6	1234.1	1229.2
152.5°	1298.8	1296.8	1317.4	1311.5	1308.6	1298.8	1300.8	1275.3	1272.3
155°	1338.0	1334.1	1352.7	1349.8	1347.8	1338.0	1338.0	1312.5	1313.5
157.5°	1375.3	1367.4	1385.1	1384.1	1380.2	1372.3	1370.4	1347.8	1350.8
160°	1407.6	1400.7	1412.5	1410.5	1407.6	1399.8	1399.8	1380.2	1385.1
162.5°	1436.0	1427.2	1437.0	1431.1	1430.2	1421.3	1425.2	1408.6	1415.4
165°	1460.5	1451.7	1456.6	1448.8	1447.8	1440.0	1446.8	1435.1	1442.9
167.5°	1482.1	1472.3	1471.3	1464.5	1462.5	1456.6	1464.5	1457.6	1466.4
170°	1498.8	1489.0	1486.0	1474.3	1472.3	1467.4	1479.2	1477.2	1485.0
172.5°	1511.5	1501.7	1494.8	1481.1	1474.3	1475.2	1490.9	1490.9	1499.7
175°	1520.3	1509.5	1501.7	1488.0	1475.2	1483.1	1499.7	1500.7	1510.5
177.5°	1522.3	1511.5	1504.6	1491.9	1487.0	1488.0	1505.6	1505.6	1516.4
180°	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7

(END OF REPORT)