

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: P199486

Luminaire Tested: **S124-DIW-U2-1-35-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199486  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P28062 P28061)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124-DIW-U2-1-35-0048-1D-UDD-1-NA-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL2-3500K, NO LENS  
DOWNLIGHT LL1-3500K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

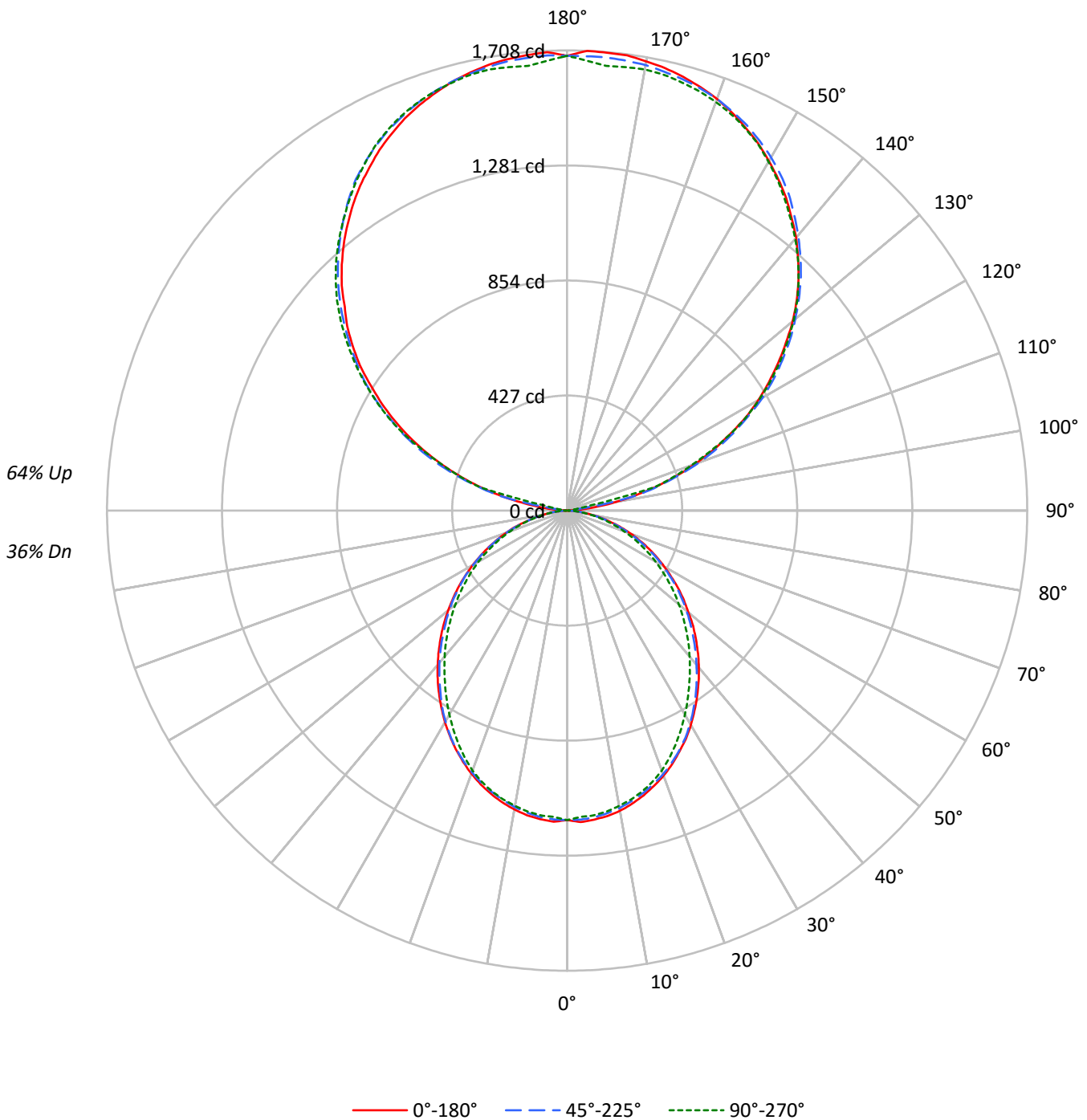
Lumens per Lamp: N/A  
Luminaire Lumens: 7909.5 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

Input Watts (W): 65.5  
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36
1	95	91	87	83	86	82	79	76	66	64	62	52	50	49	38	37	37	30
2	86	79	73	68	78	72	67	62	58	55	51	45	43	41	34	32	31	26
3	79	70	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22
4	72	61	54	48	65	56	49	44	46	41	37	36	32	30	27	25	23	19
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	24	22	20	16
6	61	49	41	35	55	45	38	33	37	31	28	29	25	22	22	19	17	14
7	56	44	36	31	51	40	34	29	33	28	24	26	23	20	20	17	16	13
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	18	16	14	11
9	48	36	29	24	44	33	27	23	28	23	19	22	18	16	17	14	13	10
10	45	33	26	22	41	31	24	20	25	21	17	20	17	14	16	13	11	9

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

	0°	90°	180°
0°	9085	9085	9085
5°	9069	8207	9053
10°	8941	7456	8903
15°	8747	6786	8703
20°	8524	6130	8462
25°	8253	5466	8178
30°	7969	4841	7866
35°	7630	4265	7523
40°	7289	3755	7164
45°	6922	3286	6787
50°	6508	2844	6393
55°	6138	2432	5977
60°	5677	2038	5516
65°	5223	1653	5017
70°	4642	1272	4424
75°	3905	894	3620
80°	2932	544	2746
85°	1722	241	1629



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.2	1.4
10°-20°	304.9	3.9
20°-30°	446.7	5.6
30°-40°	511.9	6.5
40°-50°	504.7	6.4
50°-60°	435.0	5.5
60°-70°	317.2	4.0
70°-80°	173.0	2.2
80°-90°	45.4	0.6
90°-100°	43.0	0.5
100°-110°	341.2	4.3
110°-120°	660.3	8.3
120°-130°	858.6	10.9
130°-140°	932.0	11.8
140°-150°	881.9	11.2
150°-160°	719.4	9.1
160°-170°	465.7	5.9
170°-180°	160.2	2.0
0°-30°	859.8	10.9
0°-40°	1371.7	17.3
0°-60°	2311.5	29.2
0°-90°	2847.1	36.0
90°-120°	1044.5	13.2
90°-150°	3717.1	47.0
90°-180°	5062.0	64.0
0°-180°	7909.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1149	1149	1149	1149	1149	
5°	1152	1143	1136	1142	1150	109
15°	1095	1086	1079	1081	1089	308
25°	986	984	955	975	977	454
35°	841	832	790	820	829	526
45°	676	662	624	651	663	521
55°	504	495	460	485	490	449
65°	334	326	301	318	321	330
75°	172	165	152	158	159	182
85°	39	40	37	38	37	44
90°	1	3	2	3	1	5
95°	59	15	16	16	53	75
105°	340	349	335	341	330	359
115°	663	680	666	671	646	657
125°	956	976	964	954	939	855
135°	1214	1227	1215	1203	1183	936
145°	1417	1434	1409	1413	1386	886
155°	1568	1578	1565	1562	1543	723
165°	1666	1658	1645	1649	1648	471
175°	1706	1688	1657	1687	1697	162
180°	1688	1688	1688	1688	1688	



TEST NUMBER: P199486

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8	1148.8
2.5°	1157.1	1143.9	1148.1	1145.3	1137.7	1145.3	1147.4	1143.3	1155.8
5°	1151.6	1139.1	1143.3	1139.1	1135.6	1138.4	1141.9	1137.0	1149.5
7.5°	1143.3	1130.1	1133.5	1130.1	1126.6	1129.4	1131.4	1127.3	1140.5
10°	1131.4	1117.6	1121.0	1116.9	1112.7	1115.5	1117.6	1113.4	1126.6
12.5°	1114.8	1101.6	1104.4	1101.6	1098.1	1098.8	1100.2	1096.0	1109.9
15°	1094.6	1081.4	1086.3	1083.5	1078.7	1081.4	1080.7	1075.9	1089.1
17.5°	1071.7	1059.2	1064.8	1062.0	1055.0	1059.2	1059.2	1051.6	1065.5
20°	1046.7	1033.5	1041.2	1034.2	1026.6	1030.7	1034.2	1025.2	1039.1
22.5°	1018.9	1005.0	1014.1	1001.6	993.2	998.1	1006.4	996.7	1009.2
25°	986.3	975.2	983.5	966.1	955.0	962.0	975.2	965.4	977.3
27.5°	954.3	943.2	950.2	930.7	915.4	924.5	941.1	932.8	943.2
30°	918.9	909.9	913.4	890.4	874.5	884.2	903.6	898.8	907.1
32.5°	880.0	873.1	873.1	848.8	832.1	843.2	864.0	862.7	868.2
35°	841.1	837.0	832.1	805.7	789.7	800.1	820.3	825.8	829.3
37.5°	801.5	798.8	789.7	764.0	748.7	759.9	778.6	786.9	789.0
40°	760.5	759.2	746.7	722.3	707.1	718.2	737.6	748.0	747.4
42.5°	718.9	720.3	705.0	681.4	666.1	677.2	695.3	709.2	705.7
45°	675.8	680.0	661.9	640.4	624.4	636.2	650.8	668.2	662.6
47.5°	634.1	639.0	620.2	598.0	582.7	595.2	609.8	628.6	620.2
50°	586.9	596.6	578.6	556.3	541.1	552.9	570.2	586.2	576.5
52.5°	545.9	552.9	536.9	515.4	500.8	510.5	527.9	543.8	533.4
55°	503.6	511.2	495.2	473.7	459.8	469.5	484.8	500.8	490.4
57.5°	459.1	466.7	452.2	432.7	419.5	429.9	445.9	457.0	447.3
60°	416.0	425.8	409.8	391.0	379.9	388.3	400.8	414.0	404.2
62.5°	374.4	383.4	368.1	350.8	340.3	348.0	361.2	371.6	362.6
65°	334.1	339.6	326.4	310.5	301.4	306.3	318.1	329.9	320.9
67.5°	293.1	298.7	285.5	271.6	262.5	267.4	277.1	288.2	279.9
70°	251.4	256.3	245.2	232.7	225.0	229.9	238.9	247.3	239.6
72.5°	211.8	215.3	204.9	195.2	189.6	193.1	199.3	207.0	203.5
75°	171.6	175.7	165.3	157.0	152.1	153.5	158.4	164.6	159.1
77.5°	133.4	137.5	129.2	122.9	120.2	120.9	124.3	129.2	122.2
80°	97.9	101.4	96.5	91.0	88.2	89.6	91.7	94.5	91.7
82.5°	66.0	69.5	66.0	62.5	60.4	61.8	62.5	63.9	61.8
85°	38.9	41.7	39.6	37.5	36.8	36.8	37.5	38.9	36.8
87.5°	17.4	19.4	18.1	16.7	14.6	15.3	16.0	17.4	16.0
90°	1.4	3.5	2.8	2.1	2.1	2.1	2.8	3.5	1.4
92.5°	19.0	10.0	10.0	10.0	10.0	10.0	10.0	11.0	13.0
95°	59.0	38.0	15.0	16.0	16.0	16.0	16.0	26.0	53.0
97.5°	115.0	134.0	29.0	19.0	19.0	19.0	29.0	127.0	107.0
100°	182.0	200.0	146.0	46.0	34.0	43.0	128.0	189.0	173.0
102.5°	257.0	280.0	269.0	151.0	87.0	129.0	261.0	268.0	250.0
105°	340.0	360.0	349.0	354.0	335.0	341.0	341.0	345.0	330.0
107.5°	422.0	439.0	433.0	429.0	414.0	418.0	428.0	426.0	409.0
110°	504.0	521.0	521.0	508.0	490.0	497.0	513.0	503.0	489.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	586.0	599.0	602.0	595.0	574.0	584.0	593.0	577.0	568.0
115°	663.0	682.0	680.0	681.0	666.0	666.0	671.0	659.0	646.0
117.5°	746.0	760.0	757.0	758.0	748.0	744.0	743.0	735.0	721.0
120°	819.0	835.0	837.0	830.0	823.0	815.0	820.0	809.0	794.0
122.5°	888.0	906.0	909.0	902.0	895.0	886.0	890.0	878.0	864.0
125°	956.0	976.0	976.0	971.0	964.0	955.0	954.0	944.0	939.0
127.5°	1024.0	1047.0	1043.0	1038.0	1032.0	1022.0	1017.0	1011.0	1003.0
130°	1093.0	1109.0	1105.0	1101.0	1097.0	1085.0	1081.0	1075.0	1066.0
132.5°	1156.0	1165.0	1167.0	1159.0	1159.0	1144.0	1143.0	1136.0	1120.0
135°	1214.0	1223.0	1227.0	1215.0	1215.0	1200.0	1203.0	1193.0	1183.0
137.5°	1269.0	1276.0	1281.0	1267.0	1268.0	1254.0	1259.0	1242.0	1238.0
140°	1322.0	1325.0	1334.0	1319.0	1317.0	1305.0	1312.0	1295.0	1290.0
142.5°	1369.0	1373.0	1384.0	1368.0	1363.0	1354.0	1363.0	1342.0	1339.0
145°	1417.0	1418.0	1434.0	1415.0	1409.0	1402.0	1413.0	1388.0	1386.0
147.5°	1459.0	1457.0	1476.0	1460.0	1454.0	1447.0	1459.0	1430.0	1430.0
150°	1498.0	1496.0	1514.0	1501.0	1495.0	1489.0	1496.0	1469.0	1469.0
152.5°	1536.0	1529.0	1547.0	1536.0	1534.0	1525.0	1531.0	1505.0	1509.0
155°	1568.0	1561.0	1578.0	1569.0	1565.0	1558.0	1562.0	1537.0	1543.0
157.5°	1599.0	1588.0	1603.0	1599.0	1592.0	1588.0	1588.0	1568.0	1575.0
160°	1626.0	1613.0	1626.0	1620.0	1614.0	1609.0	1613.0	1593.0	1602.0
162.5°	1648.0	1636.0	1643.0	1635.0	1632.0	1624.0	1632.0	1616.0	1626.0
165°	1666.0	1653.0	1658.0	1647.0	1645.0	1639.0	1649.0	1638.0	1648.0
167.5°	1682.0	1670.0	1668.0	1657.0	1657.0	1649.0	1661.0	1655.0	1665.0
170°	1693.0	1683.0	1679.0	1663.0	1663.0	1656.0	1673.0	1668.0	1680.0
172.5°	1704.0	1691.0	1684.0	1667.0	1660.0	1661.0	1682.0	1678.0	1690.0
175°	1706.0	1696.0	1688.0	1670.0	1657.0	1666.0	1687.0	1688.0	1697.0
177.5°	1708.0	1698.0	1688.0	1673.0	1671.0	1669.0	1691.0	1690.0	1703.0
180°	1688.0	1688.0	1688.0	1688.0	1688.0	1688.0	1688.0	1688.0	1688.0

(END OF REPORT)