

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: P199496

Luminaire Tested: **S124-DIW-U2-LO-30-0048-1D-UDD-1-NA-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199496  
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-LO-30-0048-1D-UDD-1-NA-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT WALL LED LUMINAIRE  
UPLIGHT LL2-3000K, NO LENS  
DOWNLIGHT LLO-3000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

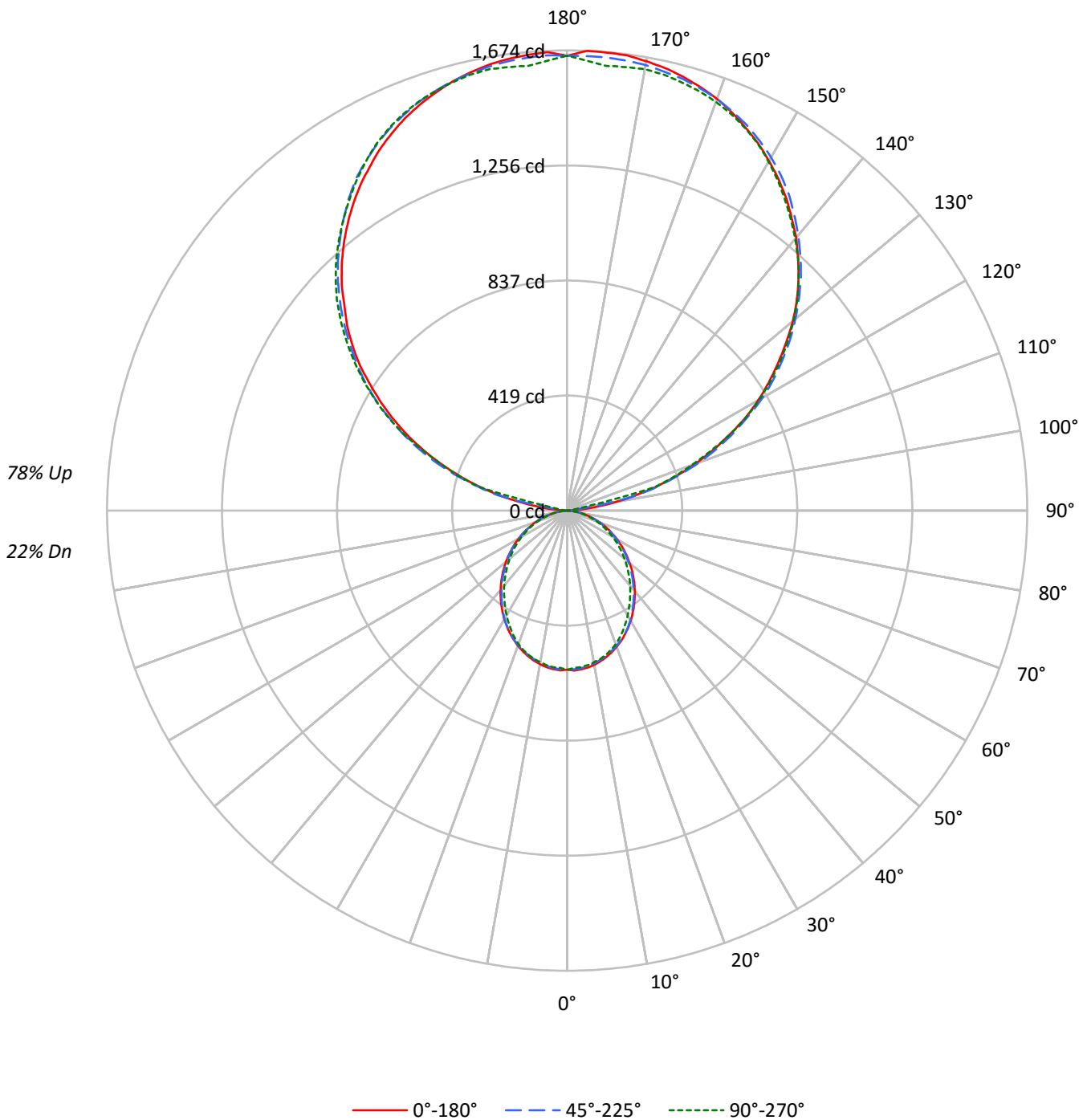
Lumens per Lamp: N/A  
Luminaire Lumens: 6396.2 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.14 / 1.28  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4.08' x H: 0.38')  
CIE Type: Semi-Indirect

Input Watts (W): 52.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	22
1	92	88	84	80	81	78	75	72	59	57	56	43	41	40	27	27	26	19
2	83	76	71	66	74	68	63	59	52	49	46	38	35	34	24	23	22	16
3	76	67	60	55	67	60	54	49	46	42	39	33	31	29	21	20	19	14
4	70	59	52	46	61	53	47	42	41	36	33	29	27	24	19	17	16	12
5	64	53	45	39	56	47	40	36	36	32	28	26	23	21	17	15	14	10
6	59	47	39	34	52	42	35	31	33	28	24	24	21	18	15	14	12	9
7	54	42	35	29	48	38	31	27	29	25	21	22	18	16	14	12	11	8
8	50	38	31	26	44	34	28	23	27	22	19	20	17	14	13	11	10	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	28	23	18	22	18	15	17	14	11	11	9	8	6

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

	0°	90°	180°
0°	4576	4576	4576
5°	4568	4134	4560
10°	4504	3755	4484
15°	4406	3418	4384
20°	4293	3088	4262
25°	4157	2753	4118
30°	4013	2439	3962
35°	3843	2148	3789
40°	3672	1891	3608
45°	3487	1655	3418
50°	3278	1432	3220
55°	3091	1225	3011
60°	2860	1027	2778
65°	2631	832	2526
70°	2337	640	2229
75°	1966	450	1823
80°	1476	274	1383
85°	868	121	819



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	0.9
10°-20°	153.6	2.4
20°-30°	225.0	3.5
30°-40°	257.9	4.0
40°-50°	254.2	4.0
50°-60°	219.1	3.4
60°-70°	159.8	2.5
70°-80°	87.1	1.4
80°-90°	22.8	0.4
90°-100°	41.9	0.7
100°-110°	334.5	5.2
110°-120°	647.2	10.1
120°-130°	841.6	13.2
130°-140°	913.6	14.3
140°-150°	864.5	13.5
150°-160°	705.2	11.0
160°-170°	456.5	7.1
170°-180°	157.1	2.5
0°-30°	433.1	6.8
0°-40°	690.9	10.8
0°-60°	1164.3	18.2
0°-90°	1434.0	22.4
90°-120°	1023.7	16.0
90°-150°	3643.4	57.0
90°-180°	4962.0	77.6
0°-180°	6396.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	579	579	579	579	579	
5°	580	576	572	575	579	55
15°	551	547	543	544	549	155
25°	497	495	481	491	492	229
35°	424	419	398	413	418	265
45°	340	333	314	328	334	263
55°	254	249	232	244	247	226
65°	168	164	152	160	162	166
75°	86	83	77	80	80	92
85°	20	20	18	19	18	22
90°	1	1	1	1	1	4
95°	58	15	16	16	52	73
105°	333	342	328	334	324	352
115°	650	667	653	658	633	644
125°	937	957	945	935	920	838
135°	1190	1203	1191	1179	1160	917
145°	1389	1406	1381	1385	1359	868
155°	1537	1547	1534	1531	1512	709
165°	1633	1625	1612	1616	1615	461
175°	1672	1655	1624	1654	1663	159
180°	1655	1655	1655	1655	1655	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	578.6	578.6	578.6	578.6	578.6	578.6	578.6	578.6	578.6
2.5°	582.8	576.2	578.3	576.9	573.0	576.9	577.9	575.8	582.1
5°	580.0	573.7	575.8	573.7	572.0	573.4	575.1	572.7	579.0
7.5°	575.8	569.2	570.9	569.2	567.4	568.8	569.9	567.8	574.4
10°	569.9	562.9	564.6	562.5	560.4	561.8	562.9	560.8	567.4
12.5°	561.5	554.9	556.2	554.9	553.1	553.5	554.2	552.1	559.0
15°	551.4	544.7	547.2	545.8	543.3	544.7	544.4	541.9	548.6
17.5°	539.8	533.5	536.3	534.9	531.4	533.5	533.5	529.7	536.7
20°	527.2	520.6	524.4	520.9	517.1	519.2	520.9	516.4	523.4
22.5°	513.2	506.2	510.8	504.5	500.3	502.7	506.9	502.0	508.3
25°	496.8	491.2	495.4	486.6	481.0	484.5	491.2	486.3	492.2
27.5°	480.7	475.1	478.6	468.8	461.1	465.6	474.0	469.8	475.1
30°	462.8	458.3	460.0	448.5	440.5	445.3	455.1	452.7	456.9
32.5°	443.3	439.8	439.8	427.5	419.1	424.7	435.2	434.5	437.3
35°	423.7	421.6	419.1	405.8	397.8	403.0	413.2	416.0	417.7
37.5°	403.7	402.3	397.8	384.8	377.1	382.7	392.2	396.4	397.4
40°	383.1	382.4	376.1	363.8	356.1	361.7	371.5	376.8	376.4
42.5°	362.1	362.8	355.1	343.2	335.5	341.1	350.2	357.2	355.4
45°	340.4	342.5	333.4	322.6	314.5	320.5	327.8	336.5	333.7
47.5°	319.4	321.9	312.4	301.2	293.5	299.8	307.2	316.6	312.4
50°	295.6	300.5	291.4	280.2	272.5	278.5	287.2	295.3	290.4
52.5°	275.0	278.5	270.4	259.6	252.2	257.1	265.9	273.9	268.7
55°	253.6	257.5	249.4	238.6	231.6	236.5	244.2	252.2	247.0
57.5°	231.2	235.1	227.7	218.0	211.3	216.6	224.6	230.2	225.3
60°	209.6	214.5	206.4	197.0	191.4	195.6	201.9	208.5	203.6
62.5°	188.6	193.1	185.4	176.7	171.4	175.3	181.9	187.2	182.6
65°	168.3	171.1	164.4	156.4	151.8	154.3	160.2	166.2	161.6
67.5°	147.6	150.4	143.8	136.8	132.2	134.7	139.6	145.2	141.0
70°	126.6	129.1	123.5	117.2	113.3	115.8	120.3	124.5	120.7
72.5°	106.7	108.5	103.2	98.3	95.5	97.3	100.4	104.3	102.5
75°	86.4	88.5	83.3	79.1	76.6	77.3	79.8	82.9	80.1
77.5°	67.2	69.3	65.1	61.9	60.5	60.9	62.6	65.1	61.6
80°	49.3	51.1	48.6	45.8	44.4	45.1	46.2	47.6	46.2
82.5°	33.2	35.0	33.2	31.5	30.4	31.1	31.5	32.2	31.1
85°	19.6	21.0	19.9	18.9	18.5	18.5	18.9	19.6	18.5
87.5°	8.7	9.8	9.1	8.4	7.3	7.7	8.0	8.7	8.0
90°	0.7	1.7	1.4	1.0	1.0	1.0	1.4	1.7	0.7
92.5°	18.6	9.8	9.8	9.8	9.8	9.8	9.8	10.8	12.7
95°	57.8	37.2	14.7	15.7	15.7	15.7	15.7	25.5	52.0
97.5°	112.7	131.4	28.4	18.6	18.6	18.6	28.4	124.5	104.9
100°	178.4	196.0	143.1	45.1	33.3	42.1	125.5	185.3	169.6
102.5°	251.9	274.5	263.7	148.0	85.3	126.4	255.8	262.7	245.1
105°	333.3	352.9	342.1	347.0	328.4	334.3	334.3	338.2	323.5
107.5°	413.7	430.3	424.4	420.5	405.8	409.7	419.5	417.6	400.9
110°	494.0	510.7	510.7	498.0	480.3	487.2	502.9	493.1	479.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	574.4	587.2	590.1	583.2	562.6	572.5	581.3	565.6	556.8
115°	649.9	668.5	666.6	667.5	652.8	652.8	657.7	646.0	633.2
117.5°	731.2	745.0	742.0	743.0	733.2	729.3	728.3	720.5	706.7
120°	802.8	818.5	820.4	813.6	806.7	798.9	803.8	793.0	778.3
122.5°	870.4	888.1	891.0	884.2	877.3	868.5	872.4	860.6	846.9
125°	937.1	956.7	956.7	951.8	944.9	936.1	935.1	925.3	920.4
127.5°	1003.8	1026.3	1022.4	1017.5	1011.6	1001.8	996.9	991.0	983.2
130°	1071.4	1087.1	1083.2	1079.2	1075.3	1063.5	1059.6	1053.7	1044.9
132.5°	1133.1	1142.0	1143.9	1136.1	1136.1	1121.4	1120.4	1113.5	1097.9
135°	1190.0	1198.8	1202.7	1191.0	1191.0	1176.3	1179.2	1169.4	1159.6
137.5°	1243.9	1250.8	1255.7	1241.9	1242.9	1229.2	1234.1	1217.4	1213.5
140°	1295.9	1298.8	1307.6	1292.9	1291.0	1279.2	1286.1	1269.4	1264.5
142.5°	1341.9	1345.9	1356.6	1340.9	1336.0	1327.2	1336.0	1315.5	1312.5
145°	1389.0	1390.0	1405.6	1387.0	1381.1	1374.3	1385.1	1360.6	1358.6
147.5°	1430.2	1428.2	1446.8	1431.1	1425.2	1418.4	1430.2	1401.7	1401.7
150°	1468.4	1466.4	1484.1	1471.3	1465.4	1459.6	1466.4	1440.0	1440.0
152.5°	1505.6	1498.8	1516.4	1505.6	1503.7	1494.8	1500.7	1475.2	1479.2
155°	1537.0	1530.1	1546.8	1538.0	1534.1	1527.2	1531.1	1506.6	1512.5
157.5°	1567.4	1556.6	1571.3	1567.4	1560.5	1556.6	1556.6	1537.0	1543.9
160°	1593.8	1581.1	1593.8	1588.0	1582.1	1577.2	1581.1	1561.5	1570.3
162.5°	1615.4	1603.7	1610.5	1602.7	1599.7	1591.9	1599.7	1584.0	1593.8
165°	1633.1	1620.3	1625.2	1614.4	1612.5	1606.6	1616.4	1605.6	1615.4
167.5°	1648.7	1637.0	1635.0	1624.2	1624.2	1616.4	1628.2	1622.3	1632.1
170°	1659.5	1649.7	1645.8	1630.1	1630.1	1623.3	1639.9	1635.0	1646.8
172.5°	1670.3	1657.6	1650.7	1634.0	1627.2	1628.2	1648.7	1644.8	1656.6
175°	1672.3	1662.5	1654.6	1637.0	1624.2	1633.1	1653.6	1654.6	1663.4
177.5°	1674.2	1664.4	1654.6	1639.9	1638.0	1636.0	1657.6	1656.6	1669.3
180°	1654.6	1654.6	1654.6	1654.6	1654.6	1654.6	1654.6	1654.6	1654.6

(END OF REPORT)