

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: P199511

Luminaire Tested: **S124-DIP-ULO-2-40-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P199511  
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-ULO-2-40-X-X0048-1D-UDD-1-5-W  
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE  
UPLIGHT LLO-4000K, SATIN WHITE DIFFUSER  
DOWNLIGHT LL2-4000K, SATIN WHITE DIFFUSER  
Light Source: -  
757G  
Ballast/Driver: ELECTRONIC DRIVERS

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5792.2 lumens  
Efficiency: N/A  
Efficacy: 105.1 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-Direct

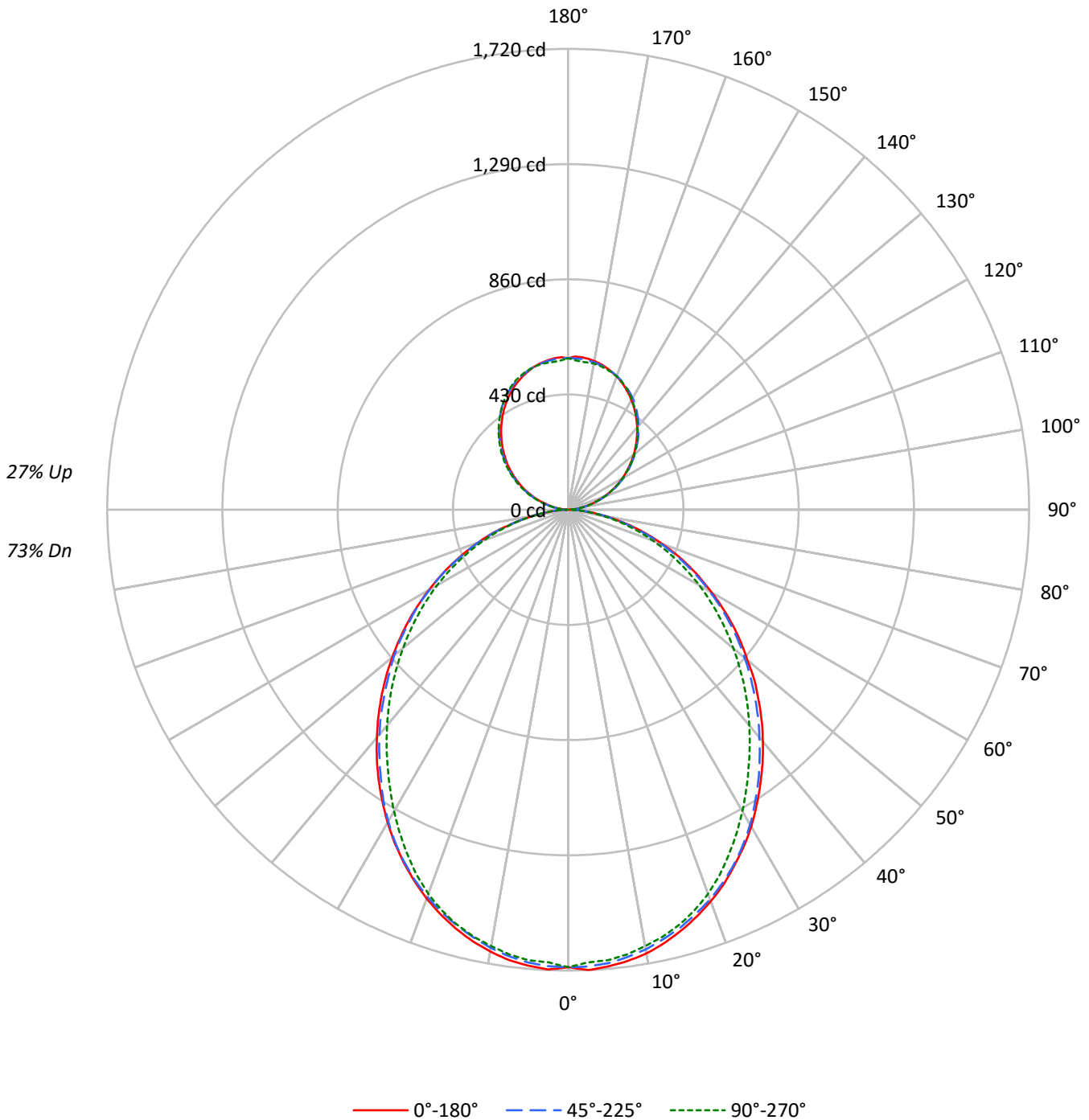
Input Watts (W): 55.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	99	95	91	98	94	90	87	85	82	79	76	74	72	69	67	66	62
2	94	86	80	75	89	82	77	72	74	70	66	67	64	61	61	58	55	52
3	86	76	68	62	81	72	66	60	66	60	56	60	55	51	54	50	47	44
4	79	68	59	53	74	64	57	51	59	53	48	53	48	44	48	44	41	38
5	72	60	52	46	68	58	50	44	53	46	41	48	43	39	43	39	36	33
6	67	54	46	40	63	52	44	39	48	41	36	43	38	34	39	35	32	29
7	62	49	41	35	59	47	40	34	43	37	32	40	34	30	36	32	28	26
8	58	45	37	31	55	43	36	30	40	33	29	36	31	27	33	29	25	23
9	54	41	33	28	51	40	32	27	36	30	26	33	28	24	31	26	23	21
10	50	38	30	25	48	36	29	25	34	28	23	31	26	22	29	24	21	19

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

	0°	90°	180°
0°	13503	13503	13503
5°	13478	12198	13454
10°	13289	11081	13232
15°	13000	10085	12934
20°	12668	9110	12576
25°	12265	8124	12153
30°	11843	7195	11691
35°	11340	6338	11180
40°	10834	5581	10646
45°	10288	4884	10088
50°	9673	4226	9501
55°	9122	3615	8883
60°	8437	3029	8198
65°	7762	2457	7456
70°	6900	1891	6575
75°	5803	1329	5379
80°	4360	809	4082
85°	2559	358	2421



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.7	2.8
10°-20°	453.2	7.8
20°-30°	663.9	11.5
30°-40°	760.9	13.1
40°-50°	750.1	13.0
50°-60°	646.6	11.2
60°-70°	471.4	8.1
70°-80°	257.1	4.4
80°-90°	67.5	1.2
90°-100°	29.4	0.5
100°-110°	105.4	1.8
110°-120°	186.5	3.2
120°-130°	248.0	4.3
130°-140°	278.9	4.8
140°-150°	274.2	4.7
150°-160°	231.4	4.0
160°-170°	153.5	2.7
170°-180°	53.5	0.9
0°-30°	1277.8	22.1
0°-40°	2038.7	35.2
0°-60°	3435.4	59.3
0°-90°	4231.4	73.1
90°-120°	321.3	5.5
90°-150°	1122.4	19.4
90°-180°	1561.0	27.0
0°-180°	5792.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1707	1707	1707	1707	1707	
5°	1712	1699	1688	1697	1708	162
15°	1627	1614	1603	1606	1619	458
25°	1466	1462	1419	1449	1452	675
35°	1250	1237	1174	1219	1232	782
45°	1004	984	928	967	985	775
55°	748	736	683	720	729	668
65°	496	485	448	473	477	491
75°	255	246	226	235	236	271
85°	58	59	55	56	55	66
90°	2	4	3	4	2	6
95°	24	27	26	25	19	27
105°	98	102	101	99	91	104
115°	188	193	190	187	180	186
125°	276	282	279	275	267	247
135°	360	367	364	361	350	278
145°	437	447	440	440	427	274
155°	503	508	507	503	494	232
165°	549	548	544	544	542	155
175°	571	564	554	564	568	54
180°	565	565	565	565	565	



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CATALOG NUMBER: S124-DIP-ULO-2-40-X-X0048-1D-UDD-1-5-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4	1707.4
2.5°	1719.8	1700.2	1706.4	1702.2	1690.9	1702.2	1705.3	1699.1	1717.7
5°	1711.5	1692.9	1699.1	1692.9	1687.8	1691.9	1697.1	1689.8	1708.4
7.5°	1699.1	1679.5	1684.7	1679.5	1674.4	1678.5	1681.6	1675.4	1695.0
10°	1681.6	1660.9	1666.1	1659.9	1653.7	1657.8	1660.9	1654.7	1674.4
12.5°	1656.8	1637.2	1641.3	1637.2	1632.0	1633.1	1635.1	1628.9	1649.6
15°	1626.9	1607.3	1614.5	1610.4	1603.1	1607.3	1606.2	1599.0	1618.6
17.5°	1592.8	1574.2	1582.5	1578.4	1568.0	1574.2	1574.2	1562.9	1583.5
20°	1555.6	1536.0	1547.4	1537.1	1525.7	1531.9	1537.1	1523.6	1544.3
22.5°	1514.4	1493.7	1507.1	1488.5	1476.2	1483.4	1495.8	1481.3	1499.9
25°	1465.8	1449.3	1461.7	1435.9	1419.4	1429.7	1449.3	1434.9	1452.4
27.5°	1418.4	1401.8	1412.2	1383.3	1360.5	1374.0	1398.7	1386.4	1401.8
30°	1365.7	1352.3	1357.4	1323.4	1299.6	1314.1	1343.0	1335.8	1348.2
32.5°	1307.9	1297.6	1297.6	1261.4	1236.7	1253.2	1284.2	1282.1	1290.3
35°	1250.1	1243.9	1236.7	1197.4	1173.7	1189.2	1219.1	1227.4	1232.5
37.5°	1191.2	1187.1	1173.7	1135.5	1112.8	1129.3	1157.2	1169.6	1172.7
40°	1130.3	1128.3	1109.7	1073.6	1050.9	1067.4	1096.3	1111.8	1110.7
42.5°	1068.4	1070.5	1047.8	1012.7	990.0	1006.5	1033.3	1054.0	1048.8
45°	1004.4	1010.6	983.8	951.8	928.0	945.6	967.2	993.1	984.8
47.5°	942.5	949.7	921.8	888.8	866.1	884.7	906.3	934.2	921.8
50°	872.3	886.7	859.9	826.9	804.1	821.7	847.5	871.2	856.8
52.5°	811.4	821.7	798.0	766.0	744.3	758.7	784.5	808.3	792.8
55°	748.4	759.8	736.0	704.0	683.4	697.8	720.5	744.3	728.8
57.5°	682.3	693.7	672.0	643.1	623.5	639.0	662.7	679.2	664.8
60°	618.3	632.8	609.0	581.2	564.7	577.0	595.6	615.2	600.8
62.5°	556.4	569.8	547.1	521.3	505.8	517.2	536.8	552.3	538.8
65°	496.5	504.8	485.2	461.4	448.0	455.2	472.8	490.3	476.9
67.5°	435.6	443.9	424.3	403.6	390.2	397.4	411.9	428.4	416.0
70°	373.7	380.9	364.4	345.8	334.5	341.7	355.1	367.5	356.1
72.5°	314.8	320.0	304.5	290.1	281.8	287.0	296.3	307.6	302.5
75°	255.0	261.2	245.7	233.3	226.1	228.1	235.4	244.7	236.4
77.5°	198.2	204.4	192.0	182.7	178.6	179.6	184.8	192.0	181.7
80°	145.6	150.7	143.5	135.2	131.1	133.2	136.3	140.4	136.3
82.5°	98.1	103.2	98.1	92.9	89.8	91.9	92.9	95.0	91.9
85°	57.8	61.9	58.8	55.7	54.7	54.7	55.7	57.8	54.7
87.5°	25.8	28.9	26.8	24.8	21.7	22.7	23.7	25.8	23.7
90°	2.1	5.2	4.1	3.1	3.1	3.1	4.1	5.2	2.1
92.5°	11.1	12.5	12.9	11.8	11.8	11.4	10.7	10.3	6.6
95°	24.3	26.5	26.9	26.9	26.2	25.4	24.7	22.8	18.8
97.5°	39.4	42.0	42.7	42.0	42.4	41.6	39.8	37.9	33.9
100°	56.7	60.1	60.8	60.1	60.4	58.6	57.8	56.0	51.2
102.5°	75.9	79.9	80.3	79.6	79.6	78.1	77.4	75.2	70.4
105°	97.6	102.1	102.4	100.9	100.9	99.5	98.7	96.5	91.0
107.5°	119.7	124.2	124.2	122.7	122.7	121.6	120.1	118.6	113.1
110°	142.6	146.3	147.0	145.2	144.8	143.7	142.2	140.0	135.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	165.4	169.1	169.8	167.6	167.3	165.1	164.7	162.1	157.3
115°	188.3	191.9	193.1	190.5	189.7	187.2	187.2	184.6	180.2
117.5°	210.4	214.8	215.9	212.9	212.6	210.4	208.9	206.7	201.9
120°	232.5	238.0	238.7	235.4	235.1	232.5	231.7	228.8	224.0
122.5°	254.6	260.1	261.2	258.3	257.2	253.8	253.5	250.9	245.7
125°	275.6	281.8	281.8	280.4	279.3	276.7	275.2	272.3	267.1
127.5°	297.3	303.9	303.6	302.5	301.4	297.7	296.6	293.6	288.1
130°	318.7	324.6	324.6	323.8	323.1	319.8	317.9	315.0	308.7
132.5°	339.7	345.6	346.3	344.5	343.7	339.3	339.7	336.0	329.7
135°	360.3	365.5	367.3	364.4	364.0	359.2	360.7	355.9	349.6
137.5°	380.6	384.6	387.9	384.3	383.9	379.1	381.3	375.1	369.5
140°	400.5	403.8	408.2	403.8	403.1	398.6	400.8	394.2	389.4
142.5°	419.3	422.2	427.7	422.9	421.8	417.8	420.4	412.6	408.2
145°	437.3	439.5	446.9	441.7	440.3	436.6	439.9	430.3	427.0
147.5°	455.4	456.5	464.9	460.2	457.9	455.0	458.3	447.6	445.1
150°	472.3	472.3	480.8	477.1	475.3	471.9	474.2	463.8	462.0
152.5°	488.2	487.4	495.2	492.9	491.8	488.2	488.9	479.3	478.2
155°	502.9	501.4	508.4	507.3	506.6	502.9	502.9	493.3	493.7
157.5°	516.9	513.9	520.6	520.2	518.7	515.8	515.1	506.6	507.7
160°	529.1	526.5	530.9	530.2	529.1	526.1	526.1	518.7	520.6
162.5°	539.7	536.4	540.1	537.9	537.5	534.2	535.7	529.4	532.0
165°	548.9	545.6	547.5	544.5	544.2	541.2	543.8	539.4	542.3
167.5°	557.1	553.4	553.0	550.4	549.7	547.5	550.4	547.8	551.2
170°	563.3	559.6	558.5	554.1	553.4	551.5	555.9	555.2	558.2
172.5°	568.1	564.4	561.8	556.7	554.1	554.5	560.4	560.4	563.7
175°	571.4	567.4	564.4	559.3	554.5	557.4	563.7	564.1	567.7
177.5°	572.2	568.1	565.5	560.7	558.9	559.3	565.9	565.9	569.9
180°	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2	565.2

(END OF REPORT)