

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: P199509

Luminaire Tested: **S124-DIP-ULO-2-35-X-X0048-1D-UDD-1-5-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P199509
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-2-35-X-X0048-1D-UDD-1-5-W
Description: DEFINE 4-INCH DIRECT/INDIRECT PENDANT LED LUMINAIRE
UPLIGHT LLO-3500K, SATIN WHITE DIFFUSER
DOWNLIGHT LL2-3500K, SATIN WHITE DIFFUSER
Light Source: -
757G
Ballast/Driver: ELECTRONIC DRIVERS

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5611.0 lumens
Efficiency: N/A
Efficacy: 101.8 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-Direct

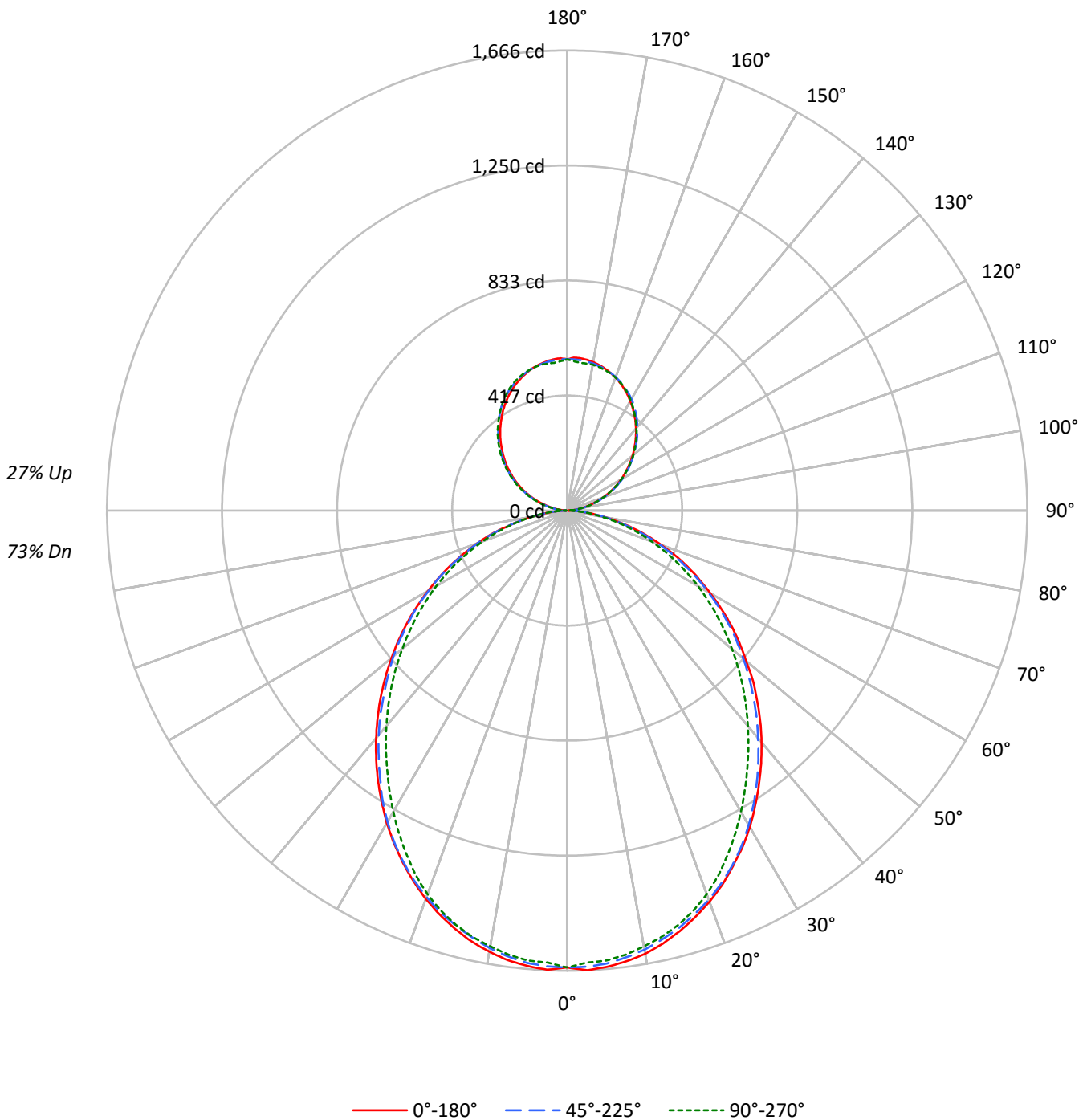
Input Watts (W): 55.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	13080	13080	13080
5°	13057	11816	13033
10°	12873	10735	12818
15°	12593	9770	12529
20°	12272	8825	12183
25°	11882	7870	11773
30°	11473	6970	11325
35°	10985	6140	10831
40°	10495	5406	10313
45°	9967	4731	9772
50°	9371	4094	9204
55°	8837	3502	8605
60°	8174	2934	7942
65°	7520	2380	7223
70°	6684	1831	6370
75°	5621	1287	5211
80°	4222	784	3953
85°	2479	347	2346



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.7	2.8
10°-20°	439.0	7.8
20°-30°	643.1	11.5
30°-40°	737.1	13.1
40°-50°	726.6	13.0
50°-60°	626.4	11.2
60°-70°	456.7	8.1
70°-80°	249.1	4.4
80°-90°	65.4	1.2
90°-100°	28.5	0.5
100°-110°	102.1	1.8
110°-120°	180.7	3.2
120°-130°	240.2	4.3
130°-140°	270.1	4.8
140°-150°	265.6	4.7
150°-160°	224.2	4.0
160°-170°	148.7	2.7
170°-180°	51.8	0.9
0°-30°	1237.8	22.1
0°-40°	1974.9	35.2
0°-60°	3327.9	59.3
0°-90°	4099.1	73.1
90°-120°	311.3	5.5
90°-150°	1087.2	19.4
90°-180°	1512.0	26.9
0°-180°	5611.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1654	1654	1654	1654	1654	
5°	1658	1646	1635	1644	1655	157
15°	1576	1564	1553	1556	1568	444
25°	1420	1416	1375	1404	1407	654
35°	1211	1198	1137	1181	1194	757
45°	973	953	899	937	954	751
55°	725	713	662	698	706	647
65°	481	470	434	458	462	476
75°	247	238	219	228	229	262
85°	56	57	53	54	53	64
90°	2	4	3	4	2	5
95°	24	26	25	24	18	26
105°	95	99	98	96	88	100
115°	182	187	184	181	174	180
125°	267	273	270	267	259	239
135°	349	356	353	349	339	269
145°	424	433	426	426	414	265
155°	487	492	491	487	478	224
165°	532	530	527	527	525	150
175°	554	547	537	546	550	53
180°	548	548	548	548	548	



TEST NUMBER: P199509

CATALOG NUMBER: S124-DIP-ULO-2-35-X-X0048-1D-UDD-1-5-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1654.0	1654.0	1654.0	1654.0	1654.0	1654.0	1654.0	1654.0	1654.0
2.5°	1666.0	1647.0	1653.0	1649.0	1638.0	1649.0	1652.0	1646.0	1664.0
5°	1658.0	1640.0	1646.0	1640.0	1635.0	1639.0	1644.0	1637.0	1655.0
7.5°	1646.0	1627.0	1632.0	1627.0	1622.0	1626.0	1629.0	1623.0	1642.0
10°	1629.0	1609.0	1614.0	1608.0	1602.0	1606.0	1609.0	1603.0	1622.0
12.5°	1605.0	1586.0	1590.0	1586.0	1581.0	1582.0	1584.0	1578.0	1598.0
15°	1576.0	1557.0	1564.0	1560.0	1553.0	1557.0	1556.0	1549.0	1568.0
17.5°	1543.0	1525.0	1533.0	1529.0	1519.0	1525.0	1525.0	1514.0	1534.0
20°	1507.0	1488.0	1499.0	1489.0	1478.0	1484.0	1489.0	1476.0	1496.0
22.5°	1467.0	1447.0	1460.0	1442.0	1430.0	1437.0	1449.0	1435.0	1453.0
25°	1420.0	1404.0	1416.0	1391.0	1375.0	1385.0	1404.0	1390.0	1407.0
27.5°	1374.0	1358.0	1368.0	1340.0	1318.0	1331.0	1355.0	1343.0	1358.0
30°	1323.0	1310.0	1315.0	1282.0	1259.0	1273.0	1301.0	1294.0	1306.0
32.5°	1267.0	1257.0	1257.0	1222.0	1198.0	1214.0	1244.0	1242.0	1250.0
35°	1211.0	1205.0	1198.0	1160.0	1137.0	1152.0	1181.0	1189.0	1194.0
37.5°	1154.0	1150.0	1137.0	1100.0	1078.0	1094.0	1121.0	1133.0	1136.0
40°	1095.0	1093.0	1075.0	1040.0	1018.0	1034.0	1062.0	1077.0	1076.0
42.5°	1035.0	1037.0	1015.0	981.0	959.0	975.0	1001.0	1021.0	1016.0
45°	973.0	979.0	953.0	922.0	899.0	916.0	937.0	962.0	954.0
47.5°	913.0	920.0	893.0	861.0	839.0	857.0	878.0	905.0	893.0
50°	845.0	859.0	833.0	801.0	779.0	796.0	821.0	844.0	830.0
52.5°	786.0	796.0	773.0	742.0	721.0	735.0	760.0	783.0	768.0
55°	725.0	736.0	713.0	682.0	662.0	676.0	698.0	721.0	706.0
57.5°	661.0	672.0	651.0	623.0	604.0	619.0	642.0	658.0	644.0
60°	599.0	613.0	590.0	563.0	547.0	559.0	577.0	596.0	582.0
62.5°	539.0	552.0	530.0	505.0	490.0	501.0	520.0	535.0	522.0
65°	481.0	489.0	470.0	447.0	434.0	441.0	458.0	475.0	462.0
67.5°	422.0	430.0	411.0	391.0	378.0	385.0	399.0	415.0	403.0
70°	362.0	369.0	353.0	335.0	324.0	331.0	344.0	356.0	345.0
72.5°	305.0	310.0	295.0	281.0	273.0	278.0	287.0	298.0	293.0
75°	247.0	253.0	238.0	226.0	219.0	221.0	228.0	237.0	229.0
77.5°	192.0	198.0	186.0	177.0	173.0	174.0	179.0	186.0	176.0
80°	141.0	146.0	139.0	131.0	127.0	129.0	132.0	136.0	132.0
82.5°	95.0	100.0	95.0	90.0	87.0	89.0	90.0	92.0	89.0
85°	56.0	60.0	57.0	54.0	53.0	53.0	54.0	56.0	53.0
87.5°	25.0	28.0	26.0	24.0	21.0	22.0	23.0	25.0	23.0
90°	2.0	5.0	4.0	3.0	3.0	3.0	4.0	5.0	2.0
92.5°	10.7	12.1	12.5	11.4	11.4	11.1	10.4	10.0	6.4
95°	23.6	25.7	26.1	26.1	25.3	24.6	23.9	22.1	18.2
97.5°	38.2	40.7	41.4	40.7	41.0	40.3	38.5	36.8	32.8
100°	55.0	58.2	58.9	58.2	58.5	56.7	56.0	54.2	49.6
102.5°	73.5	77.4	77.8	77.1	77.1	75.7	74.9	72.8	68.2
105°	94.6	98.9	99.2	97.8	97.8	96.4	95.6	93.5	88.2
107.5°	116.0	120.3	120.3	118.8	118.8	117.8	116.3	114.9	109.6
110°	138.1	141.7	142.4	140.6	140.3	139.2	137.8	135.6	131.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	160.2	163.8	164.5	162.4	162.0	159.9	159.5	157.0	152.4
115°	182.4	185.9	187.0	184.5	183.8	181.3	181.3	178.8	174.5
117.5°	203.8	208.1	209.1	206.3	205.9	203.8	202.4	200.2	195.6
120°	225.2	230.6	231.3	228.1	227.7	225.2	224.5	221.6	217.0
122.5°	246.6	252.0	253.0	250.2	249.1	245.9	245.5	243.0	238.1
125°	267.0	273.0	273.0	271.6	270.5	268.0	266.6	263.7	258.8
127.5°	288.0	294.4	294.1	293.0	291.9	288.4	287.3	284.4	279.1
130°	308.7	314.4	314.4	313.7	313.0	309.8	308.0	305.1	299.1
132.5°	329.1	334.8	335.5	333.7	333.0	328.7	329.1	325.5	319.4
135°	349.0	354.0	355.8	353.0	352.6	348.0	349.4	344.8	338.7
137.5°	368.7	372.6	375.8	372.2	371.9	367.2	369.4	363.3	358.0
140°	388.0	391.2	395.4	391.2	390.4	386.2	388.3	381.9	377.2
142.5°	406.2	409.0	414.4	409.7	408.7	404.7	407.2	399.7	395.4
145°	423.6	425.8	432.9	427.9	426.5	422.9	426.1	416.9	413.6
147.5°	441.1	442.2	450.4	445.8	443.6	440.8	444.0	433.6	431.1
150°	457.5	457.5	465.8	462.2	460.4	457.2	459.3	449.3	447.6
152.5°	472.9	472.2	479.7	477.5	476.5	472.9	473.6	464.3	463.3
155°	487.2	485.7	492.5	491.5	490.7	487.2	487.2	477.9	478.2
157.5°	500.7	497.9	504.3	503.9	502.5	499.7	498.9	490.7	491.8
160°	512.5	510.0	514.3	513.6	512.5	509.7	509.7	502.5	504.3
162.5°	522.9	519.6	523.2	521.1	520.7	517.5	518.9	512.9	515.4
165°	531.8	528.6	530.4	527.5	527.1	524.3	526.8	522.5	525.4
167.5°	539.6	536.1	535.7	533.2	532.5	530.4	533.2	530.7	533.9
170°	545.7	542.1	541.1	536.8	536.1	534.3	538.6	537.8	540.7
172.5°	550.3	546.8	544.3	539.3	536.8	537.1	542.8	542.8	546.1
175°	553.6	549.6	546.8	541.8	537.1	540.0	546.1	546.4	550.0
177.5°	554.3	550.3	547.8	543.2	541.4	541.8	548.2	548.2	552.1
180°	547.5	547.5	547.5	547.5	547.5	547.5	547.5	547.5	547.5

(END OF REPORT)