

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P914575

Luminaire Tested: DFN2DIP-SQ3F0-050D070US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914575
REPORT IS A COMBINATION OF REPORTS P901438 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D070US927-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

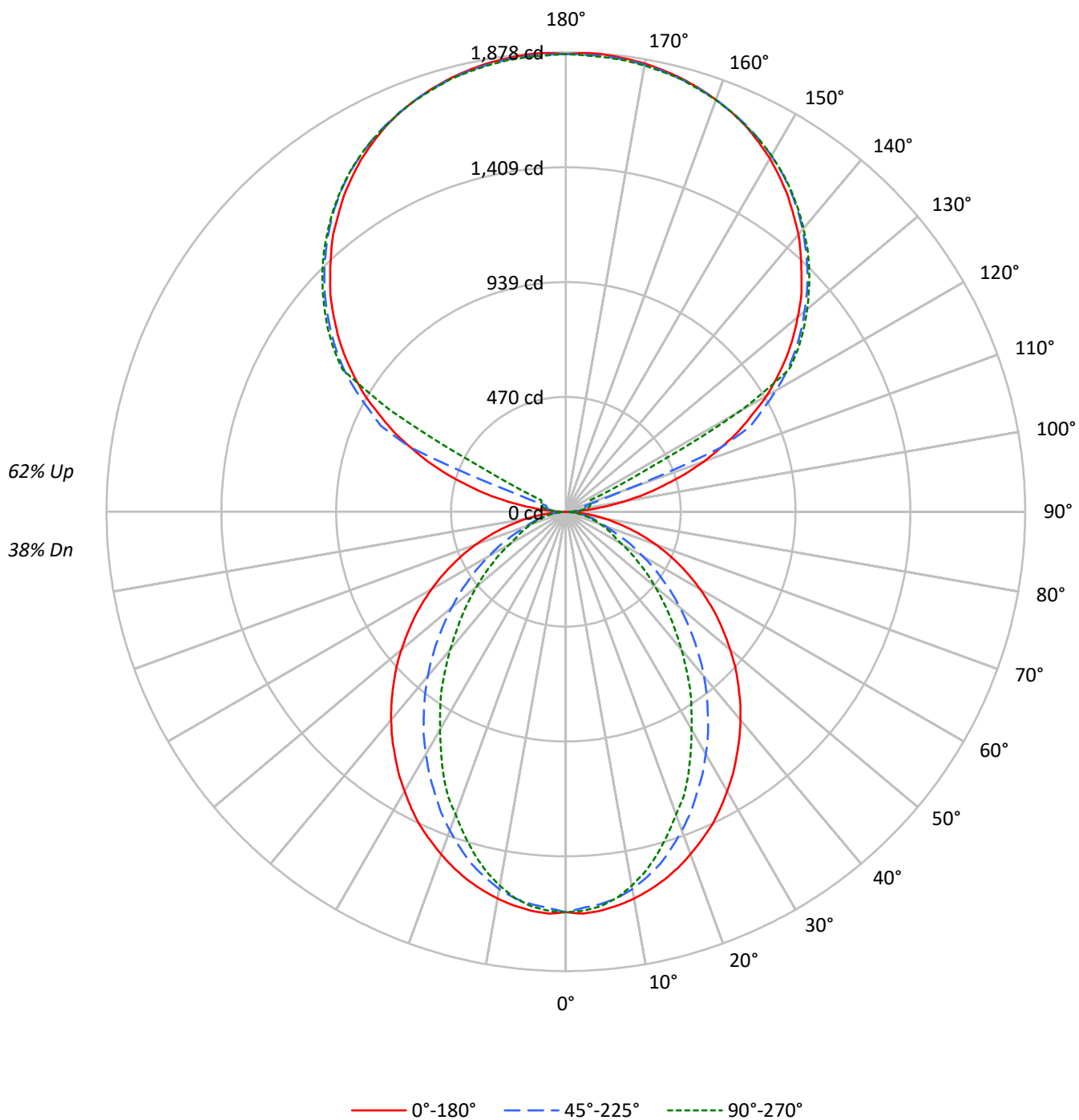
Lumens per Lamp: N/A
Luminaire Lumens: 8856.6 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 94.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P914575

CATALOG NUMBER: DFN2DIP-SQ3F0-050D070US927-RLLONL

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45
1	95	91	88	84	87	83	80	77	68	66	64	54	52	51	40	40	39
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	35	33
3	80	71	64	58	72	65	59	54	53	49	45	42	39	37	32	30	29
4	73	63	55	50	66	57	51	46	47	42	39	38	34	32	29	27	25
5	67	56	48	43	61	51	45	40	42	37	34	34	31	28	26	24	22
6	62	50	43	37	56	46	39	34	38	33	29	31	27	24	24	22	20
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	18
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16
9	50	38	31	26	45	35	28	24	29	24	21	24	20	18	19	16	14
10	46	35	28	23	42	32	26	22	27	22	19	22	18	16	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1876	1876	1876
5°	1877	1845	1857
10°	1858	1807	1796
15°	1831	1746	1702
20°	1796	1663	1587
25°	1760	1569	1476
30°	1712	1474	1335
35°	1665	1371	1211
40°	1618	1265	1070
45°	1562	1147	941
50°	1505	1029	816
55°	1445	902	696
60°	1375	770	572
65°	1295	636	514
70°	1198	511	465
75°	1076	448	421
80°	899	372	363
85°	610	242	269

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1562 cd/sqm

TEST NUMBER: P914575

CATALOG NUMBER: DFN2DIP-SQ3F0-050D070US927-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	1.7
10°-20°	421.2	4.8
20°-30°	591.3	6.7
30°-40°	644.6	7.3
40°-50°	592.4	6.7
50°-60°	465.3	5.3
60°-70°	302.9	3.4
70°-80°	155.9	1.8
80°-90°	43.1	0.5
90°-100°	61.7	0.7
100°-110°	230.0	2.6
110°-120°	610.1	6.9
120°-130°	1011.9	11.4
130°-140°	1074.9	12.1
140°-150°	999.0	11.3
150°-160°	803.2	9.1
160°-170°	517.5	5.8
170°-180°	178.1	2.0
0°-30°	1165.9	13.2
0°-40°	1810.5	20.4
0°-60°	2868.2	32.4
0°-90°	3370.1	38.1
90°-120°	901.9	10.2
90°-150°	3987.7	45.0
90°-180°	5487.0	62.0
0°-180°	8856.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1637	1630	1610	1624	1619	155
15°	1557	1541	1490	1462	1448	439
25°	1413	1366	1268	1207	1185	650
35°	1218	1142	1012	918	886	762
45°	996	896	741	636	600	769
55°	757	641	481	393	364	676
65°	511	391	258	208	203	507
75°	273	169	118	108	107	288
85°	64	33	28	28	28	73
90°	1	16	27	34	36	8
95°	88	43	53	60	58	104
105°	412	452	83	97	103	440
115°	779	802	836	209	111	767
125°	1101	1119	1144	1154	1158	982
135°	1362	1384	1396	1410	1407	1052
145°	1580	1579	1602	1612	1605	988
155°	1740	1728	1744	1752	1742	802
165°	1834	1826	1830	1839	1830	518
175°	1876	1866	1869	1878	1865	178
180°	1871	1871	1871	1871	1871	

TEST NUMBER: P914575

CATALOG NUMBER: DFN2DIP-SQ3F0-050D070US927-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1637.0	1637.0	1637.0	1637.0	1637.0
2.5°	1644.4	1637.0	1620.7	1635.6	1632.6
5°	1637.0	1629.7	1610.3	1623.7	1619.3
7.5°	1623.7	1614.9	1594.1	1600.0	1592.5
10°	1605.9	1595.5	1566.0	1561.5	1552.6
12.5°	1583.7	1570.4	1530.3	1521.5	1505.1
15°	1557.0	1540.7	1490.4	1462.3	1447.5
17.5°	1525.9	1502.2	1439.9	1407.4	1383.6
20°	1490.4	1460.7	1386.6	1349.7	1317.0
22.5°	1451.9	1417.8	1331.8	1281.5	1259.3
25°	1413.3	1365.9	1268.1	1207.4	1185.1
27.5°	1367.5	1317.0	1208.9	1139.2	1105.2
30°	1318.6	1262.2	1143.7	1068.2	1028.1
32.5°	1271.1	1202.9	1081.6	992.6	955.5
35°	1217.8	1142.2	1011.9	918.5	885.9
37.5°	1165.9	1084.4	946.7	844.4	807.5
40°	1111.1	1022.3	878.4	773.3	734.8
42.5°	1054.9	960.0	810.4	700.7	663.8
45°	995.6	896.3	740.8	635.5	599.9
47.5°	939.3	834.2	674.1	568.9	536.3
50°	877.1	771.9	608.9	506.6	475.6
52.5°	816.3	705.1	546.7	448.9	420.8
55°	757.0	641.4	481.4	392.6	364.5
57.5°	696.3	577.8	423.7	340.8	317.0
60°	634.1	515.6	362.9	287.5	263.7
62.5°	573.4	454.9	311.1	240.0	228.2
65°	511.1	391.1	257.8	207.5	203.0
67.5°	451.9	331.8	207.5	182.2	177.8
70°	389.7	274.1	171.8	157.0	151.1
72.5°	330.4	220.7	143.7	131.9	128.9
75°	272.6	168.8	118.5	108.1	106.7
77.5°	214.8	119.9	93.4	87.4	84.4
80°	161.4	86.0	71.1	65.2	65.2
82.5°	112.6	57.8	48.9	45.9	45.9
85°	63.7	32.6	28.1	28.1	28.1
87.5°	23.8	11.8	11.8	10.4	10.4
90°	1.3	16.2	27.0	33.9	36.5
92.5°	33.9	28.4	32.5	35.3	36.5
95°	87.9	43.3	52.8	59.7	58.2
97.5°	158.4	47.5	69.0	73.2	74.5
100°	239.8	54.2	77.2	87.9	90.7
102.5°	329.0	326.5	79.9	94.7	98.9
105°	411.7	452.3	82.6	97.4	102.9
107.5°	507.8	541.6	85.4	100.2	105.7
110°	600.0	628.3	237.0	101.6	106.9

TEST NUMBER: P914575

CATALOG NUMBER: DFN2DIP-SQ3F0-050D070US927-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	686.7	710.9	687.9	104.2	108.4
115°	778.6	801.6	835.5	208.6	111.1
117.5°	858.6	885.6	908.7	714.9	360.2
120°	947.9	968.2	992.7	1008.9	826.1
122.5°	1023.7	1045.4	1072.6	1080.6	1082.0
125°	1100.9	1118.6	1144.3	1153.8	1157.8
127.5°	1171.3	1190.3	1210.7	1224.2	1225.5
130°	1237.7	1259.4	1274.2	1289.2	1287.9
132.5°	1305.4	1323.1	1337.9	1350.1	1348.8
135°	1362.3	1384.0	1396.1	1409.8	1407.1
137.5°	1421.8	1438.1	1451.8	1465.3	1461.3
140°	1480.0	1491.0	1505.8	1518.0	1511.2
142.5°	1528.9	1538.4	1555.9	1566.7	1560.0
145°	1580.4	1579.0	1601.9	1611.5	1604.7
147.5°	1624.9	1621.0	1643.9	1650.7	1645.4
150°	1668.3	1658.9	1680.6	1688.6	1681.9
152.5°	1704.9	1694.1	1714.4	1722.5	1713.1
155°	1740.1	1728.0	1744.2	1752.3	1741.5
157.5°	1768.5	1757.8	1770.0	1779.5	1768.5
160°	1793.0	1784.8	1793.0	1801.0	1791.5
162.5°	1814.6	1806.5	1813.2	1822.7	1810.5
165°	1833.5	1825.5	1829.5	1839.0	1829.5
167.5°	1848.5	1840.2	1844.4	1853.9	1841.7
170°	1860.7	1852.5	1855.2	1864.7	1852.5
172.5°	1868.8	1860.7	1863.4	1872.9	1860.7
175°	1875.5	1866.0	1868.8	1878.2	1864.7
177.5°	1878.2	1868.8	1870.2	1879.7	1867.4
180°	1871.4	1871.4	1871.4	1871.4	1871.4

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	8.07	8.81	9.13	9.87	11.30	4.03	4.77	5.09	5.83	7.27
	3H	9.74	10.40	10.80	11.47	12.92	5.21	5.87	6.28	6.94	8.39
	4H	10.34	10.97	11.42	12.03	13.49	5.65	6.28	6.73	7.34	8.80
	6H	10.75	11.33	11.84	12.40	13.87	5.96	6.54	7.05	7.61	9.08
	8H	10.87	11.42	11.97	12.51	13.98	6.04	6.59	7.14	7.68	9.15
	12H	10.93	11.45	12.03	12.53	14.02	6.08	6.60	7.18	7.68	9.17
4H	2H	8.08	8.70	9.16	9.77	11.23	4.61	5.24	5.70	6.31	7.77
	3H	9.89	10.41	10.98	11.51	12.98	5.95	6.47	7.04	7.57	9.04
	4H	10.58	11.05	11.67	12.14	13.64	6.49	6.97	7.58	8.05	9.55
	6H	11.08	11.49	12.19	12.60	14.09	6.89	7.30	8.00	8.41	9.90
	8H	11.25	11.64	12.36	12.74	14.24	7.02	7.40	8.12	8.50	10.00
	12H	11.34	11.69	12.46	12.80	14.31	7.07	7.42	8.20	8.54	10.04
8H	4H	10.54	10.92	11.64	12.02	13.52	6.76	7.14	7.86	8.24	9.74
	6H	11.09	11.41	12.22	12.55	14.05	7.26	7.58	8.39	8.72	10.22
	8H	11.31	11.58	12.44	12.71	14.23	7.45	7.73	8.58	8.85	10.37
	12H	11.44	11.68	12.57	12.80	14.36	7.56	7.80	8.70	8.92	10.48
12H	4H	10.48	10.83	11.61	11.94	13.45	6.76	7.10	7.88	8.22	9.73
	6H	11.07	11.34	12.20	12.47	13.99	7.31	7.59	8.45	8.71	10.23
	8H	11.28	11.52	12.42	12.64	14.20	7.51	7.76	8.65	8.88	10.43