

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: P914574

Luminaire Tested: DFN2DIP-SQ3F0-050D070US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914574
REPORT IS A COMBINATION OF REPORTS P899918 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D070US927-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

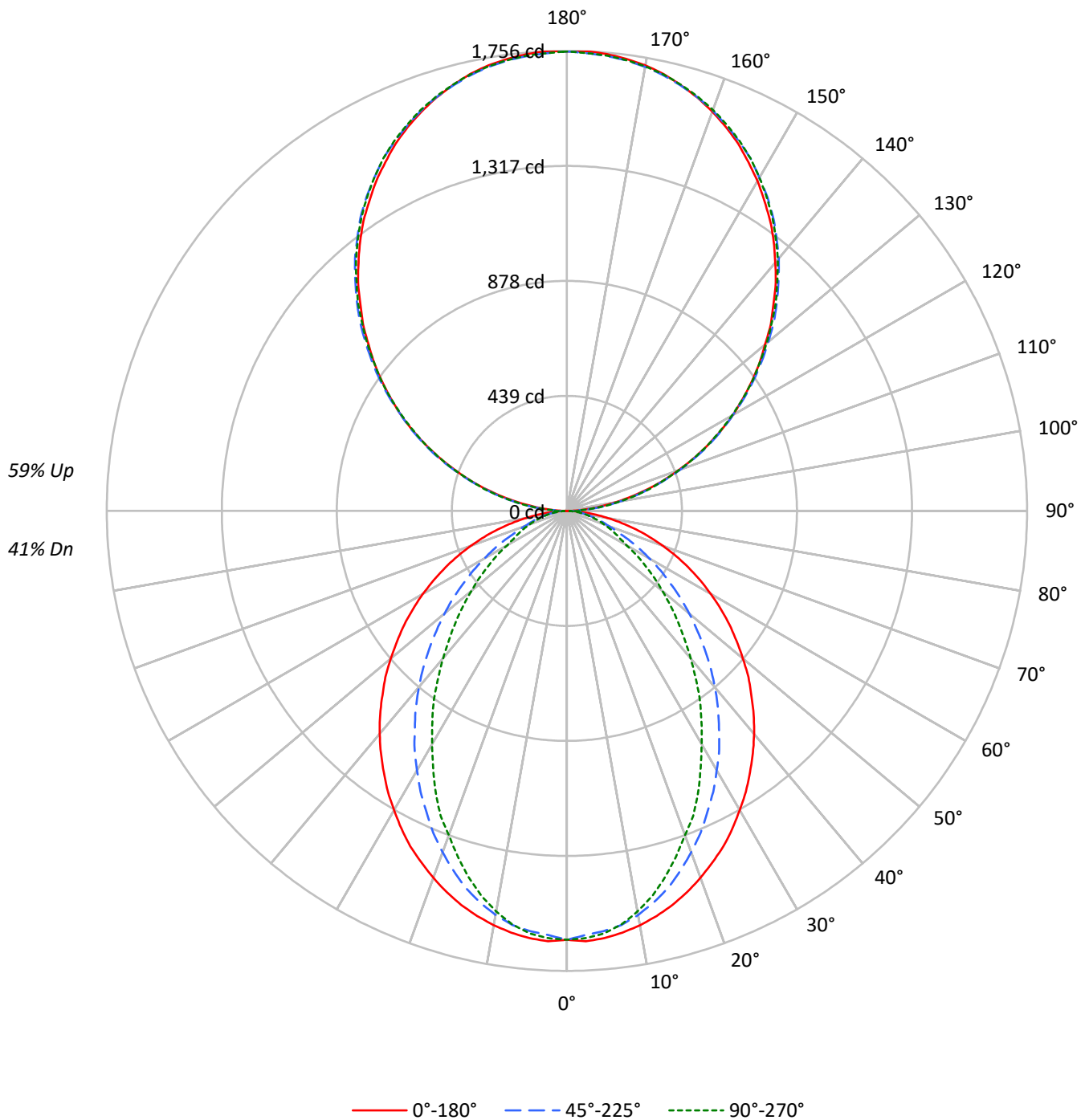
Lumens per Lamp: N/A
Luminaire Lumens: 8274.4 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

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

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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48
1	96	92	88	85	87	84	81	78	69	67	65	55	54	53	43	42	41
2	88	81	75	70	80	74	69	65	61	57	54	49	47	44	38	36	35
3	80	71	64	59	73	65	59	54	54	50	46	44	41	38	34	32	30
4	74	63	56	50	67	58	52	46	48	43	40	39	36	33	31	28	26
5	68	57	49	43	62	52	45	40	43	38	34	35	32	29	28	25	23
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	25	23	21
7	58	46	38	33	53	42	36	31	36	30	27	29	25	23	23	21	19
8	54	42	34	29	49	39	32	27	32	27	24	27	23	20	21	19	17
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15
10	47	35	28	23	43	32	26	22	27	23	19	23	19	17	18	16	14

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: 90°

Vertical Angle: 90°

Luminance: 1763 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	1.9
10°-20°	421.2	5.1
20°-30°	591.3	7.1
30°-40°	644.6	7.8
40°-50°	592.4	7.2
50°-60°	465.3	5.6
60°-70°	302.9	3.7
70°-80°	155.9	1.9
80°-90°	44.8	0.5
90°-100°	108.5	1.3
100°-110°	344.8	4.2
110°-120°	590.1	7.1
120°-130°	776.1	9.4
130°-140°	871.1	10.5
140°-150°	854.2	10.3
150°-160°	716.6	8.7
160°-170°	475.2	5.7
170°-180°	166.1	2.0
0°-30°	1165.9	14.1
0°-40°	1810.5	21.9
0°-60°	2868.2	34.7
0°-90°	3371.8	40.7
90°-120°	1043.4	12.6
90°-150°	3544.8	42.8
90°-180°	4903.0	59.3
0°-180°	8274.4	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°	2	19	52	49	50	8
95°	77	92	95	95	92	86
105°	318	322	326	328	328	336
115°	592	601	598	596	592	586
125°	861	874	870	866	864	770
135°	1114	1130	1134	1132	1128	861
145°	1352	1363	1372	1373	1367	845
155°	1546	1551	1556	1563	1558	712
165°	1682	1681	1681	1691	1684	475
175°	1751	1746	1743	1754	1745	166
180°	1754	1754	1754	1754	1754	

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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°	1.6	19.0	51.8	48.6	50.2
92.5°	32.8	44.4	46.0	47.6	47.6
95°	77.2	92.0	94.7	94.7	92.0
97.5°	128.5	142.2	148.1	148.1	148.1
100°	187.7	199.9	204.1	204.1	202.5
102.5°	250.1	259.0	264.9	266.5	264.9
105°	318.3	322.5	325.7	328.4	328.4
107.5°	386.0	392.3	392.3	393.4	386.0
110°	451.5	460.0	460.0	460.0	455.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	522.4	531.4	529.8	525.5	522.4
115°	592.2	600.6	598.0	596.4	592.2
117.5°	661.4	673.0	665.7	661.4	657.2
120°	731.2	742.8	731.2	731.2	726.4
122.5°	794.6	809.5	802.1	797.8	794.6
125°	861.3	874.5	870.3	865.5	864.0
127.5°	926.3	942.7	936.9	930.6	926.3
130°	987.1	1006.1	1003.5	1000.4	994.5
132.5°	1055.3	1070.2	1071.2	1063.8	1059.5
135°	1114.0	1130.4	1133.6	1131.9	1127.7
137.5°	1179.6	1192.8	1195.4	1194.4	1188.0
140°	1237.2	1250.5	1257.8	1257.8	1252.0
142.5°	1296.4	1309.6	1313.8	1315.4	1309.6
145°	1352.5	1363.0	1371.5	1373.1	1367.3
147.5°	1402.7	1415.9	1422.3	1424.9	1419.1
150°	1454.5	1463.5	1469.3	1474.1	1469.3
152.5°	1500.5	1509.5	1516.9	1522.7	1516.9
155°	1546.5	1550.7	1555.5	1562.9	1558.1
157.5°	1586.2	1589.4	1592.0	1602.6	1595.1
160°	1621.6	1624.8	1626.3	1635.3	1629.0
162.5°	1654.4	1654.4	1656.0	1666.0	1658.6
165°	1682.4	1680.8	1680.8	1691.4	1683.9
167.5°	1707.8	1703.0	1703.0	1713.6	1706.2
170°	1726.8	1722.6	1721.0	1731.5	1722.6
172.5°	1740.0	1735.7	1734.2	1744.8	1735.7
175°	1750.6	1746.4	1743.2	1753.7	1744.8
177.5°	1756.4	1752.1	1749.0	1758.0	1749.0
180°	1753.7	1753.7	1753.7	1753.7	1753.7

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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	8.37	9.13	9.41	10.17	11.57	4.33	5.09	5.37	6.13	7.53
	3H	10.03	10.71	11.08	11.76	13.18	5.50	6.18	6.55	7.23	8.65
	4H	10.64	11.28	11.70	12.33	13.76	5.95	6.59	7.01	7.64	9.07
	6H	11.05	11.64	12.12	12.70	14.14	6.26	6.85	7.33	7.91	9.34
	8H	11.17	11.74	12.25	12.81	14.24	6.34	6.91	7.42	7.98	9.41
	12H	11.23	11.77	12.31	12.83	14.29	6.38	6.92	7.46	7.98	9.44
4H	2H	8.37	9.02	9.44	10.07	11.50	4.91	5.56	5.98	6.61	8.03
	3H	10.19	10.73	11.27	11.81	13.25	6.25	6.78	7.32	7.86	9.30
	4H	10.88	11.37	11.96	12.44	13.90	6.79	7.28	7.87	8.35	9.81
	6H	11.38	11.80	12.47	12.90	14.35	7.20	7.62	8.28	8.71	10.17
	8H	11.56	11.95	12.64	13.03	14.50	7.32	7.71	8.41	8.80	10.27
	12H	11.64	12.00	12.75	13.10	14.57	7.38	7.73	8.48	8.83	10.31
8H	4H	10.84	11.23	11.93	12.32	13.79	7.06	7.45	8.15	8.54	10.01
	6H	11.40	11.72	12.51	12.85	14.32	7.57	7.89	8.68	9.02	10.49
	8H	11.61	11.89	12.73	13.00	14.49	7.75	8.04	8.87	9.15	10.63
	12H	11.74	11.99	12.86	13.10	14.62	7.86	8.11	8.98	9.22	10.74
12H	4H	10.79	11.14	11.89	12.24	13.72	7.06	7.42	8.17	8.52	9.99
	6H	11.37	11.66	12.49	12.77	14.25	7.62	7.90	8.73	9.01	10.50
	8H	11.59	11.83	12.71	12.94	14.47	7.82	8.07	8.94	9.17	10.70