

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: P925478

Luminaire Tested: DFN2DIP-SQ3F0-050D050US950-RLLFLL

Issue Date: 11/21/2024

**Test Information**

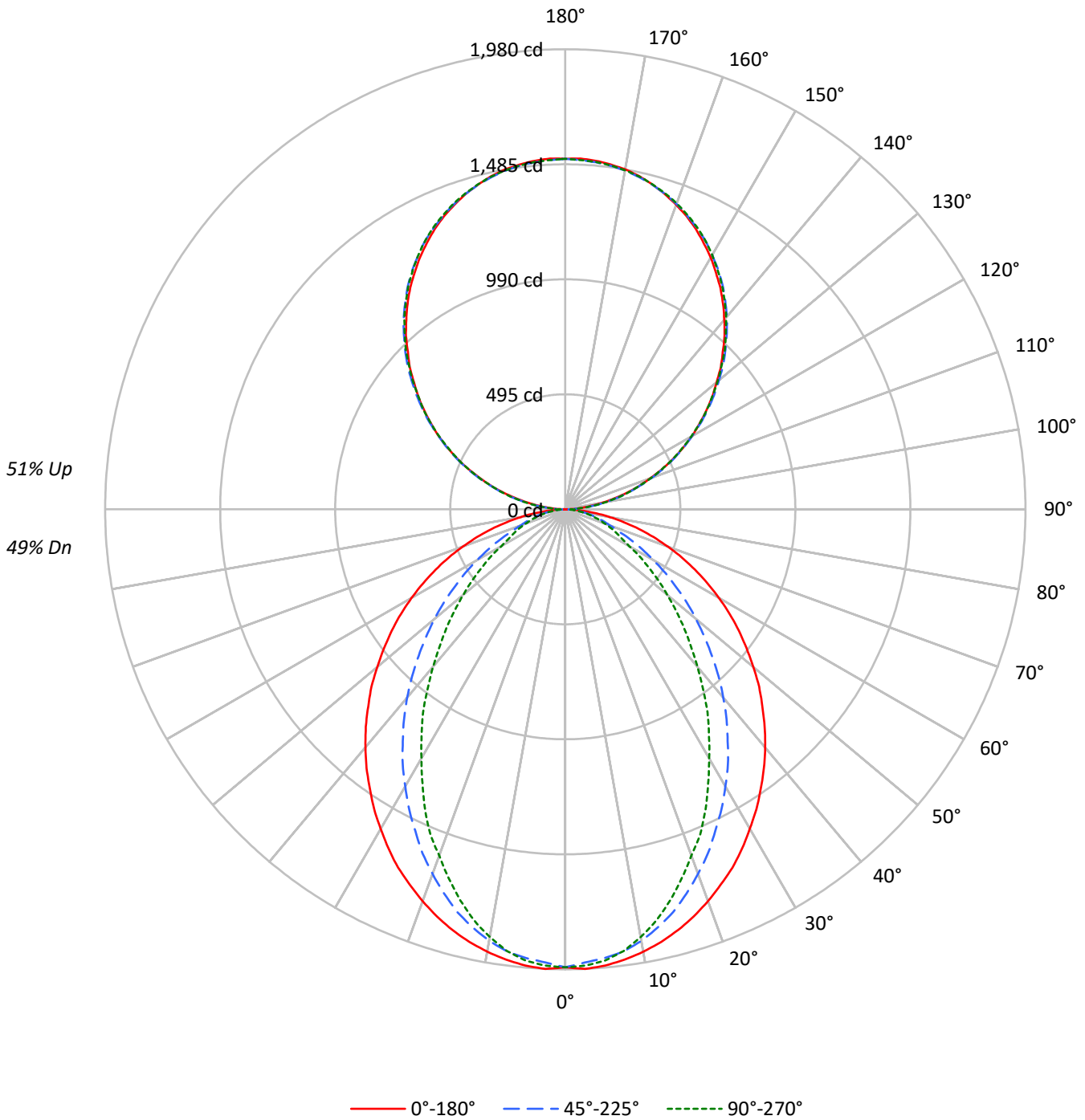
Test Method: LM-79-2019  
Report Number: P925478  
REPORT IS A COMBINATION OF REPORTS P899882 AND P896733  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-SQ3F0-050D050US950-RLLFLL  
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8276.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 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): 79.1  
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55	49			49
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48	42			42
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41	36			36
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35	31			31
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31	27			27
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27	24			24
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24	21			21
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22	19			19
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20	17			17
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18	16			16
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16	14			14

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

	0°	45°	90°
0°	2259	2259	2259
5°	2261	2222	2237
10°	2237	2176	2163
15°	2205	2103	2050
20°	2163	2003	1911
25°	2120	1890	1777
30°	2062	1775	1608
35°	2006	1651	1459
40°	1948	1523	1288
45°	1881	1382	1134
50°	1812	1239	983
55°	1740	1086	838
60°	1656	927	689
65°	1560	766	619
70°	1443	615	559
75°	1296	539	507
80°	1082	448	437
85°	734	292	325

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1881 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	184.8	2.2
10°-20°	507.2	6.1
20°-30°	712.1	8.6
30°-40°	776.3	9.4
40°-50°	713.5	8.6
50°-60°	560.3	6.8
60°-70°	364.7	4.4
70°-80°	187.7	2.3
80°-90°	52.2	0.6
90°-100°	93.4	1.1
100°-110°	296.6	3.6
110°-120°	507.6	6.1
120°-130°	667.5	8.1
130°-140°	749.3	9.1
140°-150°	734.8	8.9
150°-160°	616.4	7.4
160°-170°	408.8	4.9
170°-180°	142.9	1.7
0°-30°	1404.1	17.0
0°-40°	2180.4	26.3
0°-60°	3454.1	41.7
0°-90°	4058.8	49.0
90°-120°	897.5	10.8
90°-150°	3049.2	36.8
90°-180°	4217.0	51.0
0°-180°	8276.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1971	1971	1971	1971	1971	
5°	1971	1963	1939	1955	1950	187
15°	1875	1855	1795	1761	1743	528
25°	1702	1645	1527	1454	1427	783
35°	1467	1376	1219	1106	1067	918
45°	1199	1079	892	765	722	926
55°	912	772	580	473	439	815
65°	616	471	310	250	244	610
75°	328	203	143	130	128	347
85°	77	39	34	34	34	88
90°	1	16	45	42	43	8
95°	66	79	81	81	79	74
105°	274	277	280	282	282	289
115°	509	517	514	513	509	504
125°	741	752	749	744	743	662
135°	958	972	975	974	970	741
145°	1163	1172	1180	1181	1176	727
155°	1330	1334	1338	1344	1340	612
165°	1447	1446	1446	1455	1449	408
175°	1506	1502	1500	1509	1501	143
180°	1509	1509	1509	1509	1509	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1971.4	1971.4	1971.4	1971.4	1971.4
2.5°	1980.3	1971.4	1951.8	1969.7	1966.1
5°	1971.4	1962.6	1939.3	1955.3	1950.1
7.5°	1955.3	1944.7	1919.7	1926.8	1917.8
10°	1933.9	1921.5	1885.9	1880.4	1869.7
12.5°	1907.2	1891.2	1842.9	1832.3	1812.6
15°	1875.1	1855.4	1794.9	1761.0	1743.1
17.5°	1837.6	1809.1	1734.1	1694.9	1666.3
20°	1794.9	1759.1	1669.9	1625.4	1586.0
22.5°	1748.5	1707.4	1603.9	1543.3	1516.6
25°	1702.0	1644.9	1527.2	1454.1	1427.2
27.5°	1646.8	1586.0	1455.8	1371.9	1330.9
30°	1587.9	1520.0	1377.3	1286.4	1238.1
32.5°	1530.8	1448.6	1302.5	1195.4	1150.7
35°	1466.6	1375.6	1218.6	1106.2	1066.9
37.5°	1404.1	1305.9	1140.1	1016.9	972.4
40°	1338.1	1231.1	1057.9	931.3	884.9
42.5°	1270.3	1156.2	975.9	843.8	799.4
45°	1199.0	1079.4	892.1	765.3	722.5
47.5°	1131.2	1004.6	811.9	685.1	645.9
50°	1056.3	929.6	733.3	610.1	572.8
52.5°	983.0	849.2	658.4	540.6	506.8
55°	911.6	772.5	579.7	472.8	438.9
57.5°	838.6	695.8	510.3	410.4	381.8
60°	763.6	620.9	437.0	346.2	317.6
62.5°	690.5	547.8	374.6	289.1	274.8
65°	615.5	471.0	310.4	249.9	244.4
67.5°	544.2	399.6	249.9	219.4	214.1
70°	469.3	330.1	206.9	189.1	181.9
72.5°	397.9	265.8	173.1	158.8	155.2
75°	328.3	203.3	142.7	130.2	128.5
77.5°	258.7	144.4	112.5	105.2	101.6
80°	194.4	103.5	85.6	78.5	78.5
82.5°	135.6	69.6	58.9	55.2	55.2
85°	76.7	39.2	33.9	33.9	33.9
87.5°	28.6	14.2	14.2	12.5	12.5
90°	1.3	16.4	44.6	41.9	43.2
92.5°	28.2	38.2	39.6	40.9	40.9
95°	66.4	79.2	81.4	81.4	79.2
97.5°	110.5	122.3	127.4	127.4	127.4
100°	161.4	171.9	175.5	175.5	174.2
102.5°	215.1	222.9	227.8	229.2	227.8
105°	273.8	277.4	280.2	282.4	282.4
107.5°	332.0	337.4	337.4	338.4	332.0
110°	388.4	395.7	395.7	395.7	392.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	449.3	457.1	455.7	452.1	449.3
115°	509.3	516.7	514.4	513.1	509.3
117.5°	569.0	579.0	572.6	569.0	565.3
120°	629.0	639.0	629.0	629.0	624.9
122.5°	683.5	696.3	689.9	686.3	683.5
125°	740.9	752.2	748.6	744.5	743.2
127.5°	796.8	810.9	805.9	800.4	796.8
130°	849.2	865.5	863.2	860.5	855.5
132.5°	907.8	920.5	921.5	915.1	911.5
135°	958.3	972.3	975.1	973.7	970.1
137.5°	1014.7	1026.0	1028.3	1027.4	1021.9
140°	1064.2	1075.6	1081.9	1081.9	1077.0
142.5°	1115.1	1126.6	1130.2	1131.5	1126.6
145°	1163.4	1172.5	1179.7	1181.1	1176.1
147.5°	1206.6	1218.0	1223.4	1225.7	1220.6
150°	1251.2	1258.9	1263.9	1268.0	1263.9
152.5°	1290.8	1298.5	1304.8	1309.8	1304.8
155°	1330.3	1333.9	1338.0	1344.4	1340.3
157.5°	1364.4	1367.1	1369.4	1378.5	1372.1
160°	1394.8	1397.6	1398.9	1406.7	1401.2
162.5°	1423.1	1423.1	1424.4	1433.1	1426.7
165°	1447.2	1445.8	1445.8	1454.9	1448.6
167.5°	1469.0	1464.9	1464.9	1474.0	1467.6
170°	1485.4	1481.8	1480.4	1489.5	1481.8
172.5°	1496.7	1493.1	1491.8	1500.8	1493.1
175°	1505.9	1502.2	1499.5	1508.6	1500.8
177.5°	1510.8	1507.2	1504.5	1512.2	1504.5
180°	1508.6	1508.6	1508.6	1508.6	1508.6



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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	9.85	10.67	10.82	11.66	12.94	5.81	6.64	6.79	7.62	8.90
	3H	11.52	12.26	12.51	13.25	14.56	6.99	7.73	7.98	8.72	10.03
	4H	12.13	12.83	13.13	13.82	15.14	7.44	8.14	8.44	9.13	10.45
	6H	12.55	13.19	13.55	14.19	15.52	7.75	8.39	8.76	9.39	10.72
	8H	12.67	13.28	13.68	14.30	15.62	7.84	8.45	8.85	9.47	10.79
	12H	12.73	13.31	13.75	14.32	15.67	7.88	8.46	8.90	9.47	10.82
4H	2H	9.87	10.56	10.87	11.56	12.88	6.41	7.10	7.41	8.09	9.41
	3H	11.69	12.27	12.70	13.29	14.62	7.75	8.33	8.76	9.35	10.68
	4H	12.38	12.91	13.40	13.92	15.28	8.29	8.82	9.31	9.83	11.19
	6H	12.89	13.34	13.92	14.38	15.73	8.70	9.15	9.73	10.19	11.55
	8H	13.06	13.49	14.09	14.52	15.88	8.83	9.25	9.86	10.28	11.65
	12H	13.15	13.54	14.20	14.58	15.95	8.89	9.27	9.93	10.32	11.69
8H	4H	12.34	12.77	13.38	13.80	15.17	8.57	8.99	9.60	10.02	11.39
	6H	12.91	13.25	13.96	14.33	15.69	9.08	9.42	10.13	10.50	11.86
	8H	13.12	13.43	14.18	14.48	15.87	9.26	9.57	10.32	10.63	12.01
	12H	13.25	13.52	14.32	14.58	16.00	9.37	9.64	10.44	10.70	12.12
12H	4H	12.30	12.68	13.34	13.73	15.10	8.57	8.95	9.62	10.00	11.37
	6H	12.88	13.19	13.94	14.25	15.63	9.12	9.43	10.18	10.49	11.87
	8H	13.10	13.37	14.16	14.42	15.85	9.33	9.60	10.39	10.65	12.08