

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: P925659

Luminaire Tested: DFN2DIP-SQ3F0-100D050US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925659
REPORT IS A COMBINATION OF REPORTS P901412 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D050US950-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

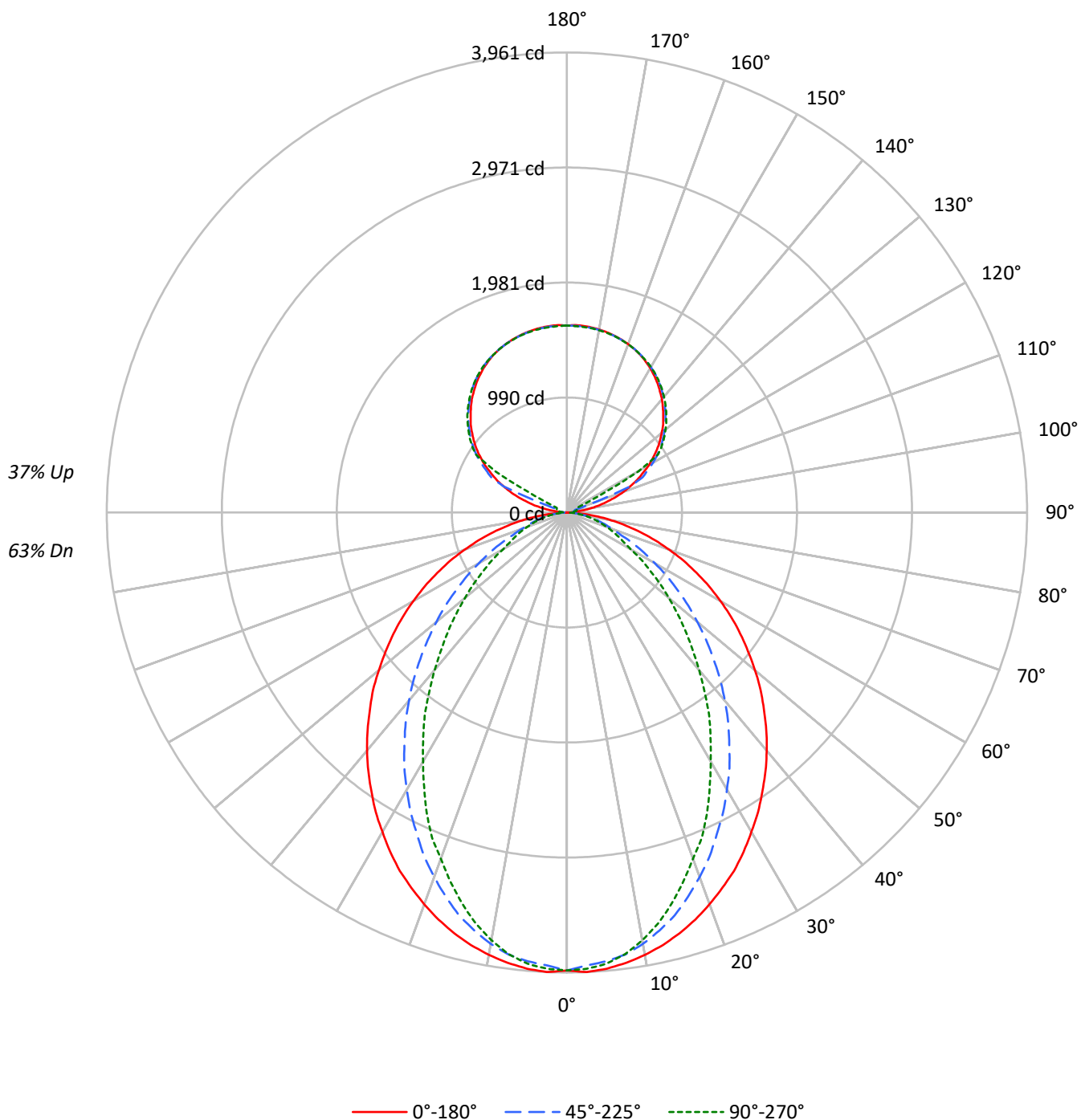
Lumens per Lamp: N/A
Luminaire Lumens: 12831.3 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 135.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLLONL

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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68
1	101	97	93	90	95	91	88	85	80	78	76	71	69	67	61	60	59
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	52	51
3	85	76	69	63	80	72	65	60	63	58	54	56	52	49	49	46	44
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38
5	72	61	53	47	67	57	50	45	51	45	41	46	41	37	40	37	34
6	67	55	47	41	62	52	45	39	46	41	36	41	37	33	37	33	30
7	62	50	42	36	58	47	40	35	42	36	32	38	33	30	34	30	27
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24
9	54	42	34	29	51	40	33	28	36	30	26	32	27	24	29	25	22
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4518	4518	4518
5°	4522	4443	4473
10°	4474	4353	4326
15°	4410	4206	4100
20°	4326	4005	3822
25°	4239	3780	3555
30°	4124	3550	3216
35°	4011	3303	2918
40°	3896	3047	2577
45°	3763	2764	2268
50°	3625	2478	1966
55°	3480	2173	1676
60°	3313	1855	1378
65°	3119	1532	1238
70°	2885	1230	1119
75°	2590	1078	1014
80°	2165	895	875
85°	1468	583	648

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3763 cd/sqm

TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.5	2.9
10°-20°	1014.4	7.9
20°-30°	1424.2	11.1
30°-40°	1552.5	12.1
40°-50°	1426.9	11.1
50°-60°	1120.6	8.7
60°-70°	729.4	5.7
70°-80°	375.5	2.9
80°-90°	98.7	0.8
90°-100°	53.1	0.4
100°-110°	197.9	1.5
110°-120°	524.8	4.1
120°-130°	870.4	6.8
130°-140°	924.6	7.2
140°-150°	859.3	6.7
150°-160°	690.9	5.4
160°-170°	445.2	3.5
170°-180°	153.2	1.2
0°-30°	2808.2	21.9
0°-40°	4360.7	34.0
0°-60°	6908.2	53.8
0°-90°	8111.8	63.2
90°-120°	775.8	6.0
90°-150°	3430.2	26.7
90°-180°	4719.0	36.8
0°-180°	12831.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3943	3943	3943	3943	3943	
5°	3943	3925	3878	3911	3900	374
15°	3750	3711	3590	3522	3486	1057
25°	3404	3290	3054	2908	2854	1566
35°	2933	2751	2437	2212	2134	1836
45°	2398	2159	1784	1531	1445	1852
55°	1823	1545	1160	946	878	1629
65°	1231	942	621	500	489	1221
75°	656	407	285	260	257	694
85°	153	78	68	68	68	176
90°	1	14	23	29	31	12
95°	76	37	45	51	50	90
105°	354	389	71	84	88	378
115°	670	690	719	179	96	659
125°	947	962	984	992	996	845
135°	1172	1191	1201	1213	1210	905
145°	1359	1358	1378	1386	1380	850
155°	1497	1486	1500	1507	1498	690
165°	1577	1570	1574	1582	1574	446
175°	1613	1605	1608	1616	1604	154
180°	1610	1610	1610	1610	1610	

TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3942.9	3942.9	3942.9	3942.9	3942.9
2.5°	3960.6	3942.9	3903.5	3939.4	3932.3
5°	3942.9	3925.0	3878.5	3910.7	3900.0
7.5°	3910.7	3889.5	3839.5	3853.5	3835.7
10°	3867.9	3842.9	3771.7	3760.8	3739.6
12.5°	3814.6	3782.3	3685.8	3664.6	3625.2
15°	3750.2	3710.8	3589.6	3521.9	3486.3
17.5°	3675.2	3618.0	3468.2	3389.8	3332.6
20°	3589.6	3518.1	3339.8	3250.9	3172.0
22.5°	3496.9	3414.7	3207.6	3086.6	3033.1
25°	3404.2	3289.9	3054.3	2908.2	2854.5
27.5°	3293.6	3172.0	2911.6	2743.9	2661.8
30°	3175.9	3039.9	2754.5	2572.8	2476.3
32.5°	3061.6	2897.2	2605.0	2390.7	2301.3
35°	2933.2	2751.1	2437.3	2212.4	2133.6
37.5°	2808.3	2611.8	2280.2	2033.7	1944.7
40°	2676.2	2462.3	2115.9	1862.6	1769.9
42.5°	2540.6	2312.3	1952.0	1687.7	1598.7
45°	2397.9	2158.6	1784.3	1530.6	1445.0
47.5°	2262.4	2009.1	1623.7	1370.0	1291.7
50°	2112.4	1859.2	1466.6	1220.2	1145.6
52.5°	1965.9	1698.3	1316.7	1081.2	1013.4
55°	1823.2	1545.0	1159.6	945.7	877.9
57.5°	1677.1	1391.6	1020.7	820.7	763.6
60°	1527.2	1241.7	874.2	692.4	635.3
62.5°	1381.0	1095.6	749.2	578.1	549.7
65°	1231.1	941.9	620.9	499.7	488.7
67.5°	1088.4	799.2	499.7	438.7	428.2
70°	938.4	660.3	413.7	378.2	363.9
72.5°	795.7	531.5	346.0	317.6	310.4
75°	656.4	406.6	285.4	260.4	257.0
77.5°	517.5	288.9	224.9	210.5	203.3
80°	388.8	207.1	171.1	157.1	157.1
82.5°	271.0	139.3	117.7	110.6	110.6
85°	153.3	78.3	67.7	67.7	67.7
87.5°	57.1	28.4	28.4	25.0	25.0
90°	1.1	13.9	23.3	29.2	31.4
92.5°	29.2	24.5	28.0	30.3	31.4
95°	75.7	37.2	45.4	51.3	50.1
97.5°	136.2	40.8	59.3	63.0	64.0
100°	206.3	46.7	66.4	75.7	78.0
102.5°	283.1	280.8	68.8	81.5	85.1
105°	354.1	389.1	71.1	83.9	88.5
107.5°	436.8	465.8	73.5	86.1	90.9
110°	516.1	540.4	203.9	87.4	92.0



TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	590.6	611.5	591.8	89.7	93.2
115°	669.8	689.6	718.7	179.4	95.6
117.5°	738.5	761.8	781.7	614.9	309.9
120°	815.4	832.8	853.8	867.9	710.5
122.5°	880.5	899.2	922.6	929.6	930.8
125°	946.9	962.2	984.3	992.4	996.0
127.5°	1007.5	1023.8	1041.5	1053.0	1054.2
130°	1064.7	1083.4	1096.1	1108.9	1107.9
132.5°	1123.0	1138.1	1150.8	1161.4	1160.3
135°	1171.9	1190.6	1200.9	1212.7	1210.3
137.5°	1223.0	1237.1	1248.8	1260.4	1257.0
140°	1273.1	1282.6	1295.2	1305.7	1300.0
142.5°	1315.2	1323.4	1338.5	1347.7	1341.9
145°	1359.4	1358.2	1378.0	1386.2	1380.3
147.5°	1397.8	1394.3	1414.1	1419.9	1415.4
150°	1435.1	1427.0	1445.6	1452.6	1446.7
152.5°	1466.5	1457.2	1474.7	1481.8	1473.5
155°	1496.8	1486.4	1500.4	1507.3	1498.1
157.5°	1521.2	1512.0	1522.5	1530.7	1521.2
160°	1542.3	1535.3	1542.3	1549.2	1541.1
162.5°	1560.8	1554.0	1559.7	1567.9	1557.4
165°	1577.2	1570.3	1573.7	1581.8	1573.7
167.5°	1590.0	1583.0	1586.6	1594.7	1584.2
170°	1600.5	1593.5	1595.9	1604.0	1593.5
172.5°	1607.5	1600.5	1602.9	1611.0	1600.5
175°	1613.3	1605.1	1607.5	1615.6	1604.0
177.5°	1615.6	1607.5	1608.7	1616.8	1606.3
180°	1609.8	1609.8	1609.8	1609.8	1609.8

TEST NUMBER: P925659

CATALOG NUMBER: DFN2DIP-SQ3F0-100D050US950-RLONL

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	13.50	14.46	14.35	15.31	16.39	9.46	10.42	10.31	11.28	12.35
	3H	15.19	16.04	16.04	16.91	18.01	10.66	11.51	11.51	12.38	13.48
	4H	15.80	16.60	16.67	17.48	18.59	11.11	11.91	11.98	12.79	13.90
	6H	16.22	16.96	17.11	17.84	18.97	11.43	12.17	12.31	13.05	14.17
	8H	16.35	17.05	17.24	17.95	19.07	11.52	12.22	12.41	13.12	14.25
	12H	16.41	17.08	17.31	17.98	19.12	11.56	12.23	12.46	13.13	14.27
4H	2H	13.54	14.34	14.41	15.21	16.32	10.07	10.88	10.95	11.75	12.86
	3H	15.37	16.04	16.26	16.94	18.07	11.43	12.09	12.31	13.00	14.13
	4H	16.06	16.67	16.96	17.57	18.73	11.97	12.58	12.87	13.48	14.64
	6H	16.58	17.10	17.49	18.03	19.18	12.39	12.92	13.31	13.84	15.00
	8H	16.76	17.24	17.67	18.17	19.33	12.52	13.01	13.44	13.93	15.10
	12H	16.85	17.29	17.79	18.23	19.40	12.59	13.03	13.52	13.97	15.14
8H	4H	16.04	16.53	16.95	17.45	18.61	12.26	12.75	13.18	13.67	14.84
	6H	16.60	17.01	17.55	17.97	19.14	12.77	13.18	13.72	14.14	15.31
	8H	16.82	17.17	17.77	18.13	19.31	12.96	13.32	13.91	14.27	15.46
	12H	16.96	17.27	17.91	18.22	19.45	13.08	13.39	14.03	14.34	15.57
12H	4H	16.00	16.43	16.93	17.38	18.55	12.27	12.71	13.20	13.65	14.82
	6H	16.58	16.94	17.53	17.89	19.07	12.82	13.18	13.77	14.13	15.32
	8H	16.80	17.12	17.76	18.06	19.30	13.03	13.35	13.99	14.29	15.53

END OF REPORT