

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: P925679

Luminaire Tested: DFN2DIP-SQ3F0-100D100US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925679
REPORT IS A COMBINATION OF REPORTS P901502 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-100D100US950-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

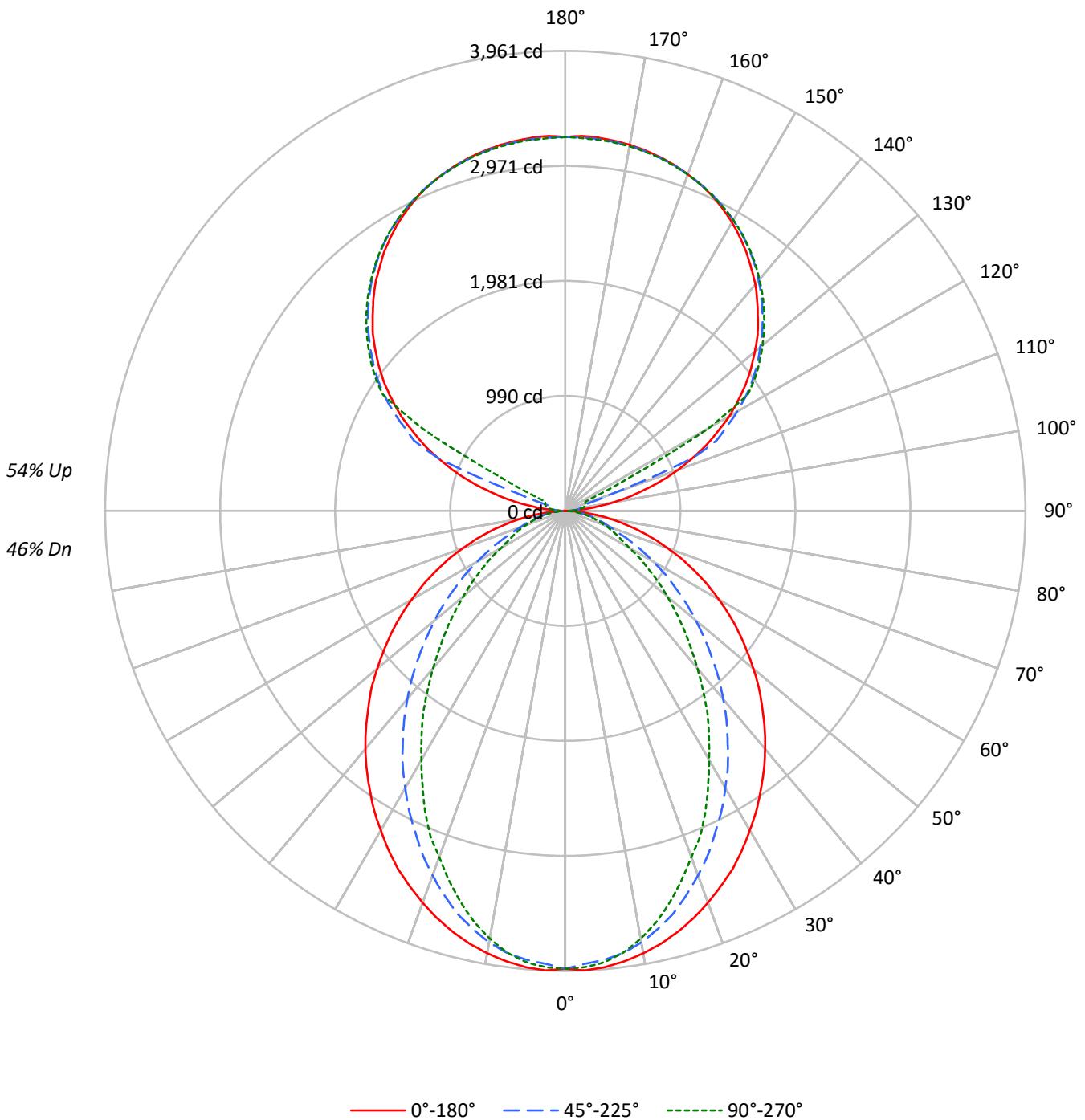
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17553.6 lumens
Efficiency: N/A
Efficacy: 99.7 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): 176
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: P925679
CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P925679

CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-RLLONL

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	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46			46
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45	40			40
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39	34			34
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34	29			29
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29	26			26
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26	23			23
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23	20			20
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21	18			18
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16			16
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17	15			15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15	13			13

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: P925679

CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.5	2.1
10°-20°	1014.4	5.8
20°-30°	1424.2	8.1
30°-40°	1552.5	8.8
40°-50°	1426.9	8.1
50°-60°	1120.6	6.4
60°-70°	729.4	4.2
70°-80°	375.5	2.1
80°-90°	101.5	0.6
90°-100°	106.2	0.6
100°-110°	395.8	2.3
110°-120°	1049.6	6.0
120°-130°	1740.9	9.9
130°-140°	1849.2	10.5
140°-150°	1718.7	9.8
150°-160°	1381.8	7.9
160°-170°	890.4	5.1
170°-180°	306.5	1.7
0°-30°	2808.2	16.0
0°-40°	4360.7	24.8
0°-60°	6908.2	39.4
0°-90°	8114.6	46.2
90°-120°	1551.6	8.8
90°-150°	6860.4	39.1
90°-180°	9439.0	53.8
0°-180°	17553.6	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°	2	28	46	58	63	16
95°	151	74	91	103	100	179
105°	708	778	142	168	177	757
115°	1340	1379	1438	359	191	1319
125°	1894	1924	1969	1985	1992	1689
135°	2344	2381	2402	2425	2421	1810
145°	2719	2716	2756	2772	2761	1700
155°	2994	2973	3001	3015	2996	1380
165°	3154	3140	3147	3164	3147	891
175°	3226	3210	3215	3231	3208	307
180°	3220	3220	3220	3220	3220	



TEST NUMBER: P925679

CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-RLONL

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°	2.2	28.0	46.5	58.4	62.8
92.5°	58.4	48.9	55.9	60.6	62.8
95°	151.3	74.4	90.7	102.7	100.2
97.5°	272.5	81.6	118.7	125.8	128.1
100°	412.5	93.2	132.8	151.3	156.1
102.5°	566.0	561.6	137.5	162.9	170.1
105°	708.2	778.2	142.2	167.6	177.1
107.5°	873.7	931.8	146.9	172.4	181.7
110°	1032.1	1080.9	407.7	174.9	183.9



TEST NUMBER: P925679

CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-RLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1181.2	1223.0	1183.5	179.3	186.5
115°	1339.5	1379.1	1437.5	358.8	191.2
117.5°	1477.0	1523.5	1563.3	1230.0	619.7
120°	1630.9	1665.7	1707.8	1735.7	1421.2
122.5°	1761.2	1798.5	1845.2	1859.1	1861.5
125°	1894.0	1924.4	1968.7	1985.0	1991.9
127.5°	2015.1	2047.8	2082.9	2106.1	2108.3
130°	2129.3	2166.7	2192.2	2217.9	2215.7
132.5°	2245.8	2276.2	2301.7	2322.7	2320.5
135°	2343.8	2381.1	2401.9	2425.4	2420.7
137.5°	2446.2	2474.1	2497.6	2520.8	2513.9
140°	2546.2	2565.1	2590.5	2611.6	2599.9
142.5°	2630.4	2646.7	2676.8	2695.3	2683.8
145°	2718.9	2716.4	2756.0	2772.3	2760.7
147.5°	2795.5	2788.6	2828.1	2839.8	2830.7
150°	2870.2	2853.9	2891.3	2905.1	2893.5
152.5°	2933.0	2914.5	2949.4	2963.4	2947.1
155°	2993.7	2972.9	3000.8	3014.6	2996.1
157.5°	3042.6	3024.1	3045.1	3061.4	3042.6
160°	3084.7	3070.5	3084.7	3098.5	3082.2
162.5°	3121.7	3107.8	3119.5	3135.8	3114.8
165°	3154.3	3140.5	3147.4	3163.8	3147.4
167.5°	3180.1	3165.9	3173.2	3189.5	3168.4
170°	3201.1	3187.0	3191.7	3208.0	3187.0
172.5°	3214.9	3201.1	3205.8	3222.1	3201.1
175°	3226.5	3210.2	3214.9	3231.3	3208.0
177.5°	3231.3	3214.9	3217.5	3233.8	3212.7
180°	3219.7	3219.7	3219.7	3219.7	3219.7



TEST NUMBER: P925679
 CATALOG NUMBER: DFN2DIP-SQ3F0-100D100US950-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	11.99	12.79	12.98	13.79	15.12	7.95	8.75	8.94	9.75	11.08
	3H	13.66	14.38	14.67	15.39	16.73	9.13	9.85	10.14	10.86	12.20
	4H	14.26	14.94	15.28	15.96	17.31	9.57	10.25	10.59	11.27	12.62
	6H	14.68	15.30	15.71	16.32	17.69	9.89	10.51	10.92	11.53	12.90
	8H	14.80	15.40	15.84	16.43	17.80	9.97	10.57	11.01	11.60	12.97
	12H	14.86	15.43	15.90	16.45	17.84	10.01	10.58	11.05	11.61	12.99
4H	2H	12.00	12.68	13.03	13.69	15.05	8.54	9.22	9.56	10.23	11.59
	3H	13.82	14.39	14.86	15.43	16.80	9.88	10.44	10.91	11.49	12.85
	4H	14.51	15.02	15.55	16.06	17.45	10.42	10.94	11.46	11.97	13.36
	6H	15.02	15.46	16.07	16.52	17.91	10.83	11.27	11.88	12.33	13.72
	8H	15.19	15.60	16.24	16.65	18.06	10.96	11.37	12.01	12.42	13.82
	12H	15.28	15.65	16.35	16.72	18.13	11.02	11.39	12.08	12.45	13.86
8H	4H	14.47	14.89	15.53	15.94	17.34	10.70	11.11	11.75	12.16	13.56
	6H	15.03	15.37	16.11	16.47	17.87	11.20	11.54	12.28	12.64	14.04
	8H	15.25	15.55	16.33	16.62	18.04	11.39	11.69	12.47	12.77	14.19
	12H	15.38	15.64	16.47	16.72	18.18	11.50	11.77	12.59	12.84	14.30
12H	4H	14.42	14.80	15.49	15.86	17.27	10.70	11.07	11.77	12.14	13.54
	6H	15.01	15.31	16.09	16.38	17.80	11.25	11.55	12.33	12.63	14.05
	8H	15.22	15.49	16.31	16.56	18.02	11.46	11.72	12.54	12.79	14.25