

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: P925203

Luminaire Tested: DFN2DIP-PN4F0-100D080US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925203
REPORT IS A COMBINATION OF REPORTS P901214 AND P898053
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-100D080US950-RLONL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

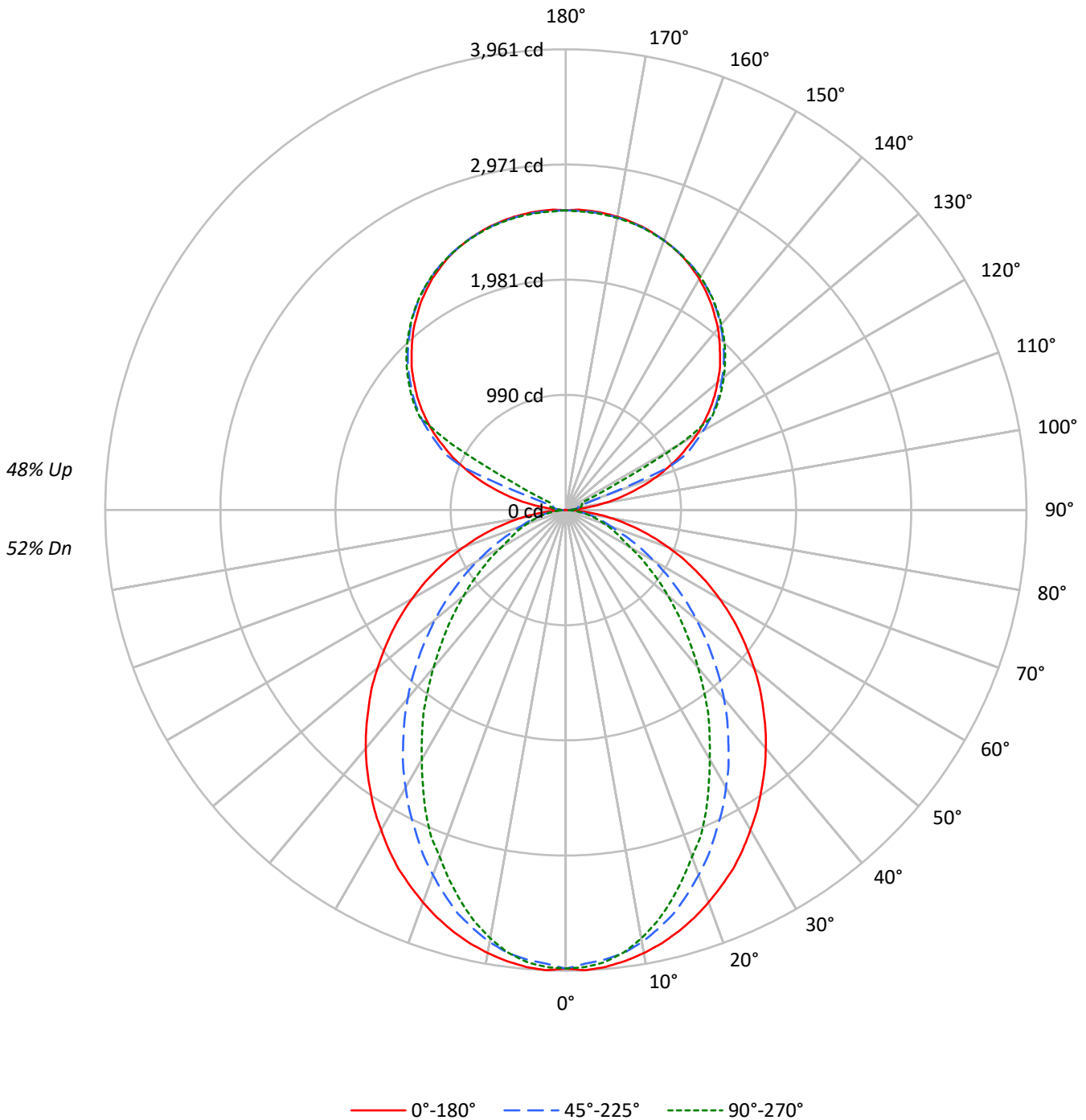
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15664.7 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 158.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P925203
CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-RLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P925203

CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-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
RCR																				
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58	52	52	52
1	99	95	91	87	91	88	84	82	75	72	70	63	61	60	52	51	50	45	45	45
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43	38	38	38
3	83	74	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33	33	33
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	35	32	29	29	29
5	70	59	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25	25	25
6	65	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22	22	22
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	23	20	20	20
8	56	44	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18	18	18
9	52	40	32	28	48	37	31	26	33	27	24	28	24	21	24	21	19	16	16	16
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17	15	15	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2878	2878	2878
5°	2883	2833	2851
10°	2854	2778	2759
15°	2815	2686	2616
20°	2763	2560	2440
25°	2710	2418	2271
30°	2638	2273	2056
35°	2568	2117	1866
40°	2497	1956	1650
45°	2414	1777	1453
50°	2328	1595	1261
55°	2239	1402	1076
60°	2136	1200	886
65°	2017	994	798
70°	1872	802	724
75°	1691	708	659
80°	1429	595	574
85°	995	399	434

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2414 cd/sqm



TEST NUMBER: P925203

CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	369.5	2.4
10°-20°	1014.4	6.5
20°-30°	1424.2	9.1
30°-40°	1552.5	9.9
40°-50°	1426.9	9.1
50°-60°	1120.6	7.2
60°-70°	729.4	4.7
70°-80°	375.5	2.4
80°-90°	100.4	0.6
90°-100°	84.9	0.5
100°-110°	316.6	2.0
110°-120°	839.7	5.4
120°-130°	1392.7	8.9
130°-140°	1479.4	9.4
140°-150°	1374.9	8.8
150°-160°	1105.4	7.1
160°-170°	712.3	4.5
170°-180°	245.2	1.6
0°-30°	2808.2	17.9
0°-40°	4360.7	27.8
0°-60°	6908.2	44.1
0°-90°	8113.5	51.8
90°-120°	1241.3	7.9
90°-150°	5488.3	35.0
90°-180°	7551.0	48.2
0°-180°	15664.7	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	22	37	47	50	15
95°	121	60	73	82	80	143
105°	567	623	114	134	142	605
115°	1072	1103	1150	287	153	1055
125°	1515	1540	1575	1588	1594	1351
135°	1875	1905	1922	1940	1936	1448
145°	2175	2173	2205	2218	2208	1360
155°	2395	2378	2401	2412	2397	1104
165°	2524	2512	2518	2531	2518	713
175°	2581	2568	2572	2585	2566	246
180°	2576	2576	2576	2576	2576	



TEST NUMBER: P925203

CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-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°	1.8	22.3	37.2	46.7	50.3
92.5°	46.7	39.2	44.7	48.5	50.3
95°	121.1	59.5	72.6	82.1	80.1
97.5°	218.0	65.3	94.9	100.7	102.5
100°	330.0	74.6	106.3	121.1	124.8
102.5°	452.9	449.2	110.0	130.3	136.1
105°	566.6	622.6	113.7	134.1	141.7
107.5°	698.9	745.4	117.5	137.9	145.4
110°	825.8	864.7	326.3	139.9	147.2



TEST NUMBER: P925203

CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	945.0	978.4	946.8	143.4	149.2
115°	1071.6	1103.3	1150.0	287.1	152.9
117.5°	1181.6	1218.8	1250.7	984.0	495.8
120°	1304.7	1332.5	1366.2	1388.5	1136.9
122.5°	1408.9	1438.8	1476.2	1487.3	1489.3
125°	1515.1	1539.5	1574.9	1587.9	1593.5
127.5°	1612.1	1638.2	1666.4	1684.9	1686.7
130°	1703.5	1733.3	1753.7	1774.3	1772.5
132.5°	1796.7	1821.0	1841.4	1858.2	1856.4
135°	1875.0	1904.9	1921.5	1940.3	1936.5
137.5°	1956.9	1979.3	1998.1	2016.7	2011.1
140°	2037.0	2052.1	2072.5	2089.3	2079.9
142.5°	2104.3	2117.3	2141.4	2156.3	2147.0
145°	2175.1	2173.1	2204.8	2217.9	2208.5
147.5°	2236.5	2230.9	2262.5	2271.9	2264.5
150°	2296.2	2283.1	2313.0	2324.0	2314.8
152.5°	2346.5	2331.6	2359.4	2370.8	2357.7
155°	2394.9	2378.3	2400.6	2411.7	2396.9
157.5°	2434.0	2419.2	2436.0	2449.1	2434.0
160°	2467.7	2456.5	2467.7	2478.8	2465.7
162.5°	2497.4	2486.3	2495.6	2508.6	2491.8
165°	2523.5	2512.5	2518.0	2531.0	2518.0
167.5°	2544.0	2532.8	2538.5	2551.6	2534.8
170°	2560.9	2549.6	2553.4	2566.5	2549.6
172.5°	2572.0	2560.9	2564.6	2577.7	2560.9
175°	2581.2	2568.2	2572.0	2585.0	2566.5
177.5°	2585.0	2572.0	2573.9	2587.0	2570.2
180°	2575.7	2575.7	2575.7	2575.7	2575.7



TEST NUMBER: P925203
 CATALOG NUMBER: DFN2DIP-PN4F0-100D080US950-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	10.99	11.84	11.94	12.80	14.05	6.96	7.80	7.91	8.76	10.01
	3H	12.67	13.43	13.64	14.40	15.67	8.15	8.90	9.11	9.87	11.14
	4H	13.29	14.00	14.26	14.97	16.25	8.60	9.31	9.57	10.29	11.57
	6H	13.71	14.37	14.70	15.35	16.64	8.92	9.58	9.91	10.56	11.85
	8H	13.84	14.46	14.83	15.46	16.75	9.01	9.64	10.01	10.63	11.92
	12H	13.90	14.50	14.90	15.49	16.80	9.06	9.65	10.05	10.64	11.96
4H	2H	11.01	11.73	11.99	12.70	13.98	7.56	8.27	8.54	9.24	10.52
	3H	12.85	13.44	13.84	14.44	15.74	8.91	9.50	9.90	10.51	11.80
	4H	13.54	14.08	14.54	15.08	16.40	9.46	10.00	10.46	11.00	12.31
	6H	14.06	14.53	15.07	15.55	16.86	9.88	10.35	10.89	11.37	12.68
	8H	14.24	14.67	15.25	15.69	17.01	10.01	10.44	11.02	11.46	12.79
	12H	14.34	14.73	15.36	15.76	17.09	10.08	10.47	11.10	11.50	12.83
8H	4H	13.51	13.95	14.52	14.96	16.29	9.74	10.18	10.75	11.19	12.52
	6H	14.08	14.44	15.12	15.49	16.82	10.26	10.62	11.30	11.68	13.00
	8H	14.30	14.62	15.34	15.66	17.00	10.45	10.77	11.50	11.81	13.16
	12H	14.44	14.72	15.49	15.75	17.14	10.57	10.85	11.62	11.89	13.28
12H	4H	13.46	13.86	14.49	14.88	16.22	9.75	10.14	10.78	11.17	12.50
	6H	14.06	14.37	15.10	15.41	16.76	10.31	10.63	11.35	11.67	13.02
	8H	14.28	14.56	15.33	15.59	16.98	10.52	10.80	11.57	11.84	13.23