

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: P924735

Luminaire Tested: DFN2DIP-PN2F0-050D020US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924735
REPORT IS A COMBINATION OF REPORTS P900988 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-050D020US950-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

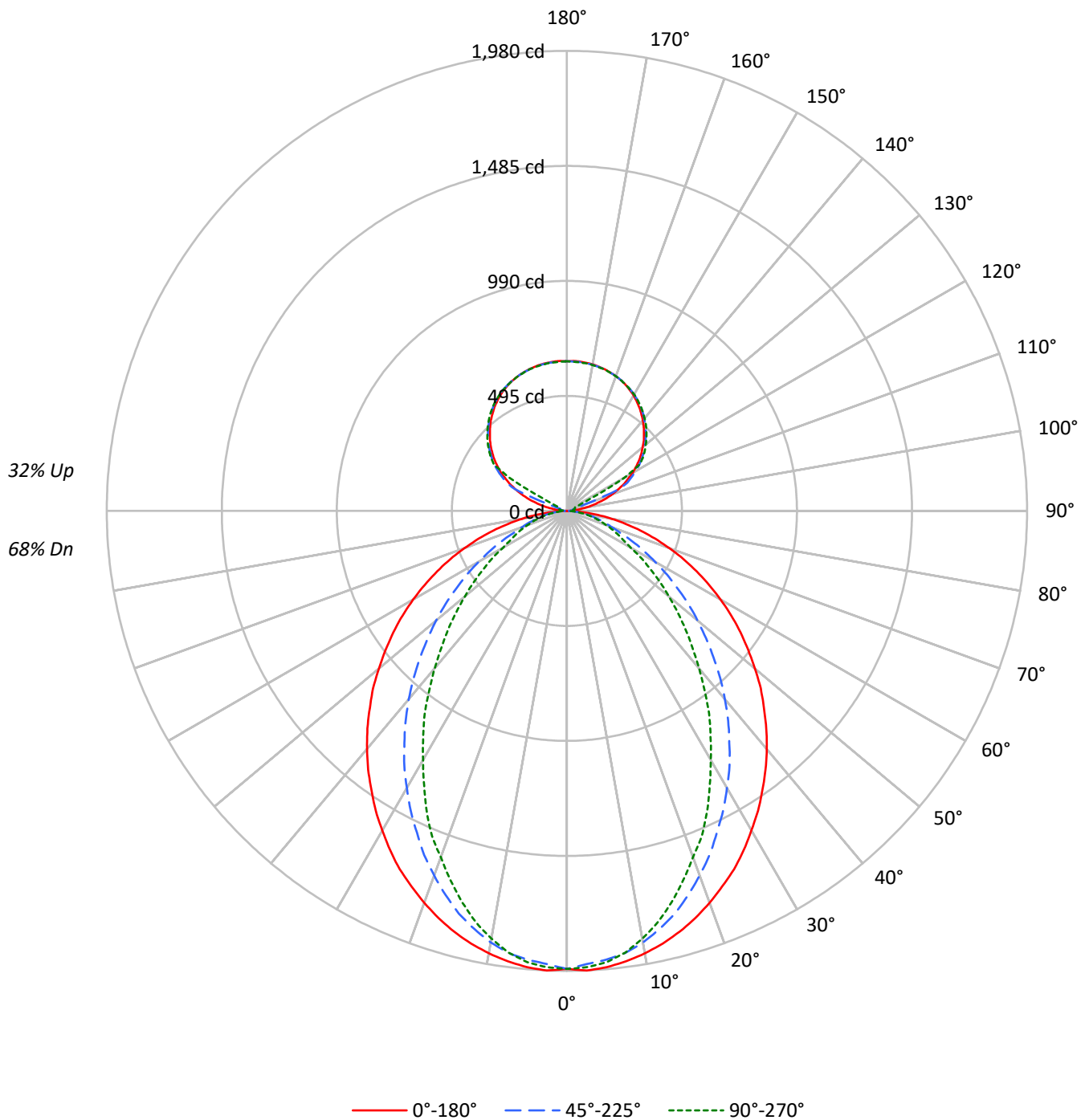
Lumens per Lamp: N/A
Luminaire Lumens: 5943.4 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 67
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-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	111	111	111	111	105	105	105	105	93	93	93	83	83	83	73	73	73
1	103	98	95	91	97	93	90	87	83	81	78	74	72	70	65	64	63
2	94	87	81	76	88	82	77	72	74	69	66	66	63	60	58	56	54
3	86	77	70	64	81	73	66	61	66	60	56	59	55	51	52	49	47
4	79	69	61	55	75	65	58	53	59	53	49	53	48	45	47	44	41
5	73	62	53	48	69	59	51	46	53	47	42	48	43	39	43	39	36
6	68	56	47	42	64	53	46	40	48	42	38	43	39	35	39	35	32
7	63	50	43	37	59	48	41	36	44	38	33	40	35	31	36	32	29
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	33	29	26
9	55	42	35	30	52	41	34	29	37	31	27	34	29	25	31	27	24
10	51	39	32	27	48	37	31	26	34	29	25	31	27	23	29	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4270	4270	4270
5°	4270	4193	4223
10°	4221	4102	4079
15°	4156	3957	3861
20°	4072	3762	3595
25°	3986	3545	3339
30°	3873	3323	3016
35°	3762	3085	2733
40°	3649	2840	2409
45°	3519	2569	2116
50°	3383	2297	1830
55°	3240	2007	1555
60°	3075	1706	1274
65°	2884	1400	1140
70°	2653	1116	1023
75°	2362	965	918
80°	1943	785	777
85°	1271	488	552

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3519 cd/sqm

TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	3.1
10°-20°	507.2	8.5
20°-30°	712.1	12.0
30°-40°	776.3	13.1
40°-50°	713.5	12.0
50°-60°	560.3	9.4
60°-70°	364.7	6.1
70°-80°	187.7	3.2
80°-90°	49.1	0.8
90°-100°	21.2	0.4
100°-110°	79.1	1.3
110°-120°	209.9	3.5
120°-130°	348.2	5.9
130°-140°	369.8	6.2
140°-150°	343.7	5.8
150°-160°	276.4	4.6
160°-170°	178.1	3.0
170°-180°	61.3	1.0
0°-30°	1404.1	23.6
0°-40°	2180.4	36.7
0°-60°	3454.1	58.1
0°-90°	4055.7	68.2
90°-120°	310.3	5.2
90°-150°	1372.0	23.1
90°-180°	1888.0	31.8
0°-180°	5943.4	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°	0	6	9	12	13	6
95°	30	15	18	20	20	36
105°	142	156	28	34	35	151
115°	268	276	288	72	38	264
125°	379	385	394	397	398	338
135°	469	476	480	485	484	362
145°	544	543	551	554	552	340
155°	599	594	600	603	599	276
165°	631	628	629	633	629	178
175°	645	642	643	646	642	61
180°	644	644	644	644	644	

TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-RLLONL

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°	0.5	5.6	9.3	11.6	12.6
92.5°	11.6	9.8	11.2	12.1	12.6
95°	30.2	14.9	18.1	20.5	20.0
97.5°	54.5	16.3	23.8	25.2	25.7
100°	82.5	18.6	26.5	30.2	31.2
102.5°	113.2	112.3	27.5	32.6	34.1
105°	141.7	155.6	28.4	33.5	35.4
107.5°	174.8	186.3	29.4	34.4	36.3
110°	206.4	216.2	81.6	35.0	36.8



TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	236.2	244.6	236.7	35.9	37.3
115°	267.9	275.8	287.5	71.7	38.3
117.5°	295.4	304.7	312.6	246.0	123.9
120°	326.2	333.1	341.5	347.2	284.2
122.5°	352.2	359.7	369.0	371.8	372.3
125°	378.8	384.8	393.7	397.0	398.4
127.5°	403.1	409.6	416.6	421.2	421.7
130°	425.9	433.3	438.5	443.6	443.1
132.5°	449.1	455.2	460.3	464.5	464.1
135°	468.8	476.2	480.3	485.1	484.2
137.5°	489.2	494.8	499.5	504.2	502.8
140°	509.2	513.1	518.1	522.3	520.0
142.5°	526.0	529.4	535.4	539.1	536.7
145°	543.8	543.3	551.2	554.5	552.2
147.5°	559.1	557.7	565.6	567.9	566.1
150°	574.0	570.8	578.2	581.0	578.7
152.5°	586.6	582.9	589.9	592.7	589.4
155°	598.7	594.5	600.2	602.9	599.2
157.5°	608.6	604.8	609.0	612.3	608.6
160°	617.0	614.1	617.0	619.7	616.5
162.5°	624.3	621.5	623.9	627.2	623.0
165°	630.9	628.1	629.4	632.8	629.4
167.5°	636.0	633.2	634.6	637.9	633.6
170°	640.2	637.4	638.3	641.6	637.4
172.5°	643.0	640.2	641.2	644.4	640.2
175°	645.3	642.0	643.0	646.2	641.6
177.5°	646.2	643.0	643.5	646.7	642.5
180°	643.9	643.9	643.9	643.9	643.9

TEST NUMBER: P924735

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US950-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	13.63	14.63	14.42	15.44	16.43	9.60	10.60	10.39	11.41	12.40
	3H	15.30	16.20	16.10	17.02	18.03	10.78	11.68	11.59	12.50	13.52
	4H	15.90	16.75	16.72	17.57	18.60	11.23	12.08	12.05	12.90	13.93
	6H	16.32	17.10	17.15	17.93	18.97	11.54	12.32	12.38	13.16	14.20
	8H	16.44	17.18	17.28	18.03	19.07	11.63	12.37	12.47	13.22	14.27
	12H	16.50	17.20	17.34	18.05	19.12	11.67	12.38	12.52	13.22	14.29
4H	2H	13.66	14.51	14.49	15.34	16.36	10.20	11.05	11.03	11.87	12.90
	3H	15.49	16.19	16.32	17.05	18.09	11.55	12.25	12.39	13.11	14.15
	4H	16.17	16.81	17.02	17.66	18.74	12.09	12.73	12.94	13.58	14.66
	6H	16.67	17.22	17.54	18.11	19.18	12.50	13.05	13.36	13.93	15.01
	8H	16.84	17.36	17.71	18.23	19.32	12.62	13.14	13.49	14.01	15.10
	12H	16.93	17.39	17.82	18.29	19.38	12.68	13.15	13.57	14.04	15.14
8H	4H	16.14	16.66	17.01	17.54	18.62	12.37	12.88	13.24	13.76	14.85
	6H	16.69	17.12	17.59	18.04	19.13	12.87	13.30	13.77	14.21	15.30
	8H	16.90	17.28	17.81	18.19	19.29	13.05	13.43	13.96	14.34	15.44
	12H	17.03	17.36	17.94	18.27	19.42	13.16	13.49	14.07	14.40	15.55
12H	4H	16.10	16.57	16.99	17.46	18.56	12.38	12.84	13.27	13.74	14.83
	6H	16.67	17.05	17.58	17.96	19.06	12.91	13.29	13.82	14.20	15.31
	8H	16.88	17.21	17.79	18.12	19.28	13.12	13.45	14.03	14.35	15.51

END OF REPORT