

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: P919241

Luminaire Tested: DFN2DIP-PN2F0-030D030US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919241
REPORT IS A COMBINATION OF REPORTS P900993 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D030US935-FLLONL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

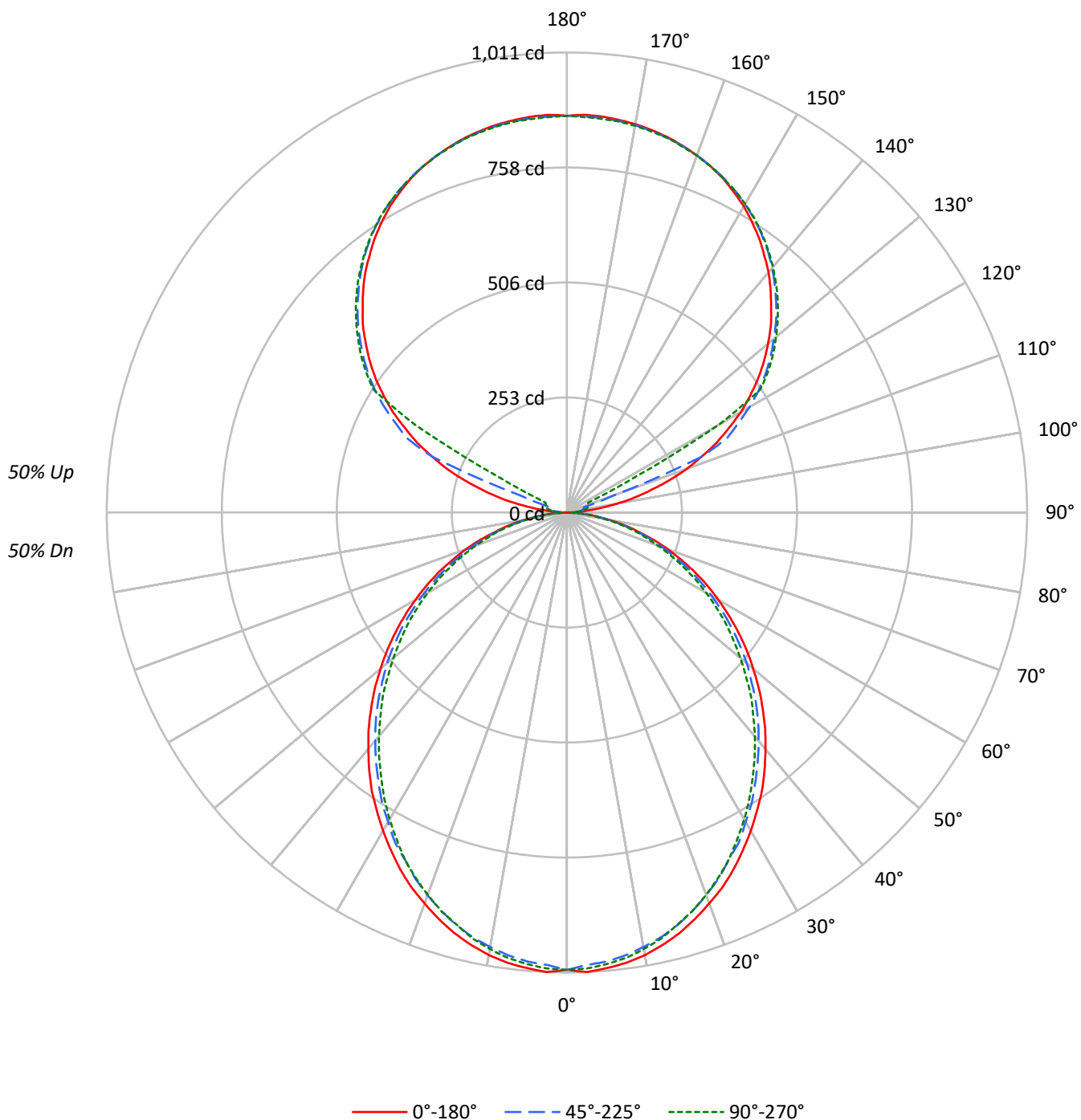
Lumens per Lamp: N/A
Luminaire Lumens: 5114.4 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 46.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLLONL

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	98	93	90	86	90	86	83	80	73	71	68	61	59	58	50	48	47
2	89	82	75	70	82	76	70	66	64	60	57	53	51	48	44	42	40
3	81	72	64	59	75	66	60	55	56	52	48	47	44	41	39	36	34
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	31	28	26
6	63	51	43	37	58	47	40	35	40	35	31	34	30	27	28	25	23
7	58	46	38	32	53	43	36	30	37	31	27	31	27	23	26	23	20
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	24	20	18
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	19	16
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2177	2177	2177
5°	2177	2142	2158
10°	2156	2108	2125
15°	2120	2069	2077
20°	2074	2016	2027
25°	2028	1954	1969
30°	1971	1896	1898
35°	1917	1828	1822
40°	1850	1759	1750
45°	1784	1690	1675
50°	1711	1617	1590
55°	1635	1532	1511
60°	1549	1433	1419
65°	1454	1330	1312
70°	1333	1204	1196
75°	1168	1053	1084
80°	966	859	879
85°	656	543	551

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1784 cd/sqm

TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.8
10°-20°	266.2	5.2
20°-30°	391.1	7.6
30°-40°	454.3	8.9
40°-50°	453.7	8.9
50°-60°	395.6	7.7
60°-70°	292.5	5.7
70°-80°	165.5	3.2
80°-90°	45.2	0.9
90°-100°	28.7	0.6
100°-110°	107.2	2.1
110°-120°	284.2	5.6
120°-130°	471.3	9.2
130°-140°	500.7	9.8
140°-150°	465.3	9.1
150°-160°	374.1	7.3
160°-170°	241.1	4.7
170°-180°	83.0	1.6
0°-30°	751.9	14.7
0°-40°	1206.2	23.6
0°-60°	2055.6	40.2
0°-90°	2558.7	50.0
90°-120°	420.1	8.2
90°-150°	1857.5	36.3
90°-180°	2556.0	50.0
0°-180°	5114.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	1	8	13	16	17	5
95°	41	20	24	28	27	49
105°	192	211	38	45	48	205
115°	363	373	389	97	52	357
125°	513	521	533	537	539	457
135°	635	645	650	657	655	490
145°	736	736	746	751	747	460
155°	810	805	812	816	811	373
165°	854	850	852	857	852	241
175°	874	869	870	875	869	83
180°	872	872	872	872	872	

TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	0.6	7.6	12.6	15.8	17.0
92.5°	15.8	13.3	15.2	16.4	17.0
95°	41.0	20.1	24.5	27.8	27.1
97.5°	73.8	22.1	32.1	34.1	34.7
100°	111.7	25.2	36.0	41.0	42.3
102.5°	153.3	152.1	37.2	44.1	46.1
105°	191.7	210.7	38.5	45.4	48.0
107.5°	236.5	252.3	39.8	46.7	49.2
110°	279.5	292.7	110.4	47.4	49.9



TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	319.9	331.1	320.5	48.6	50.5
115°	362.7	373.4	389.2	97.1	51.7
117.5°	399.9	412.5	423.3	333.0	167.8
120°	441.5	451.0	462.4	469.9	384.8
122.5°	476.8	487.0	499.6	503.3	504.0
125°	512.8	521.0	533.0	537.4	539.3
127.5°	545.6	554.4	564.0	570.2	570.8
130°	576.5	586.7	593.6	600.5	599.9
132.5°	608.0	616.3	623.2	628.9	628.3
135°	634.6	644.7	650.3	656.7	655.4
137.5°	662.3	669.9	676.2	682.5	680.6
140°	689.4	694.5	701.4	707.1	704.0
142.5°	712.2	716.6	724.8	729.8	726.7
145°	736.2	735.5	746.2	750.6	747.4
147.5°	756.9	755.0	765.8	768.9	766.4
150°	777.1	772.7	782.8	786.5	783.4
152.5°	794.1	789.1	798.6	802.4	798.0
155°	810.5	804.9	812.4	816.2	811.2
157.5°	823.8	818.8	824.5	828.9	823.8
160°	835.2	831.4	835.2	839.0	834.5
162.5°	845.2	841.5	844.6	849.0	843.3
165°	854.0	850.3	852.2	856.6	852.2
167.5°	861.0	857.2	859.1	863.6	857.9
170°	866.7	862.9	864.2	868.6	862.9
172.5°	870.5	866.7	868.0	872.4	866.7
175°	873.6	869.2	870.5	874.9	868.6
177.5°	874.9	870.5	871.2	875.5	869.9
180°	871.8	871.8	871.8	871.8	871.8

TEST NUMBER: P919241

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US935-FLONL

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	9.86	10.72	10.82	11.69	12.96	9.42	10.28	10.38	11.26	12.53
	3H	11.50	12.27	12.47	13.25	14.55	11.02	11.79	11.99	12.77	14.07
	4H	12.07	12.81	13.06	13.79	15.09	11.59	12.32	12.58	13.31	14.61
	6H	12.46	13.13	13.45	14.12	15.44	11.97	12.65	12.97	13.64	14.95
	8H	12.56	13.20	13.55	14.20	15.52	12.07	12.71	13.07	13.72	15.03
	12H	12.60	13.21	13.60	14.21	15.54	12.10	12.71	13.11	13.72	15.05
4H	2H	10.31	11.04	11.30	12.03	13.33	9.96	10.69	10.95	11.68	12.98
	3H	12.15	12.76	13.15	13.78	15.09	11.75	12.37	12.75	13.38	14.70
	4H	12.85	13.41	13.86	14.42	15.76	12.44	13.00	13.44	14.00	15.34
	6H	13.35	13.83	14.36	14.86	16.20	12.93	13.41	13.95	14.44	15.78
	8H	13.49	13.94	14.51	14.96	16.31	13.06	13.51	14.08	14.54	15.89
	12H	13.55	13.96	14.59	15.00	16.35	13.12	13.52	14.15	14.56	15.92
8H	4H	13.04	13.49	14.06	14.51	15.86	12.67	13.12	13.69	14.14	15.49
	6H	13.64	14.02	14.69	15.08	16.43	13.27	13.64	14.31	14.71	16.06
	8H	13.85	14.18	14.90	15.23	16.60	13.47	13.80	14.52	14.85	16.22
	12H	13.97	14.26	15.02	15.30	16.71	13.57	13.86	14.63	14.91	16.32
12H	4H	13.02	13.43	14.06	14.47	15.82	12.66	13.07	13.70	14.11	15.46
	6H	13.67	14.00	14.72	15.05	16.42	13.31	13.64	14.36	14.69	16.05
	8H	13.90	14.18	14.95	15.23	16.64	13.53	13.82	14.58	14.86	16.27