

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: P913852

Luminaire Tested: DFN2DIP-PN2F0-060D050US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913852
REPORT IS A COMBINATION OF REPORTS P899499 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-060D050US927-FLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

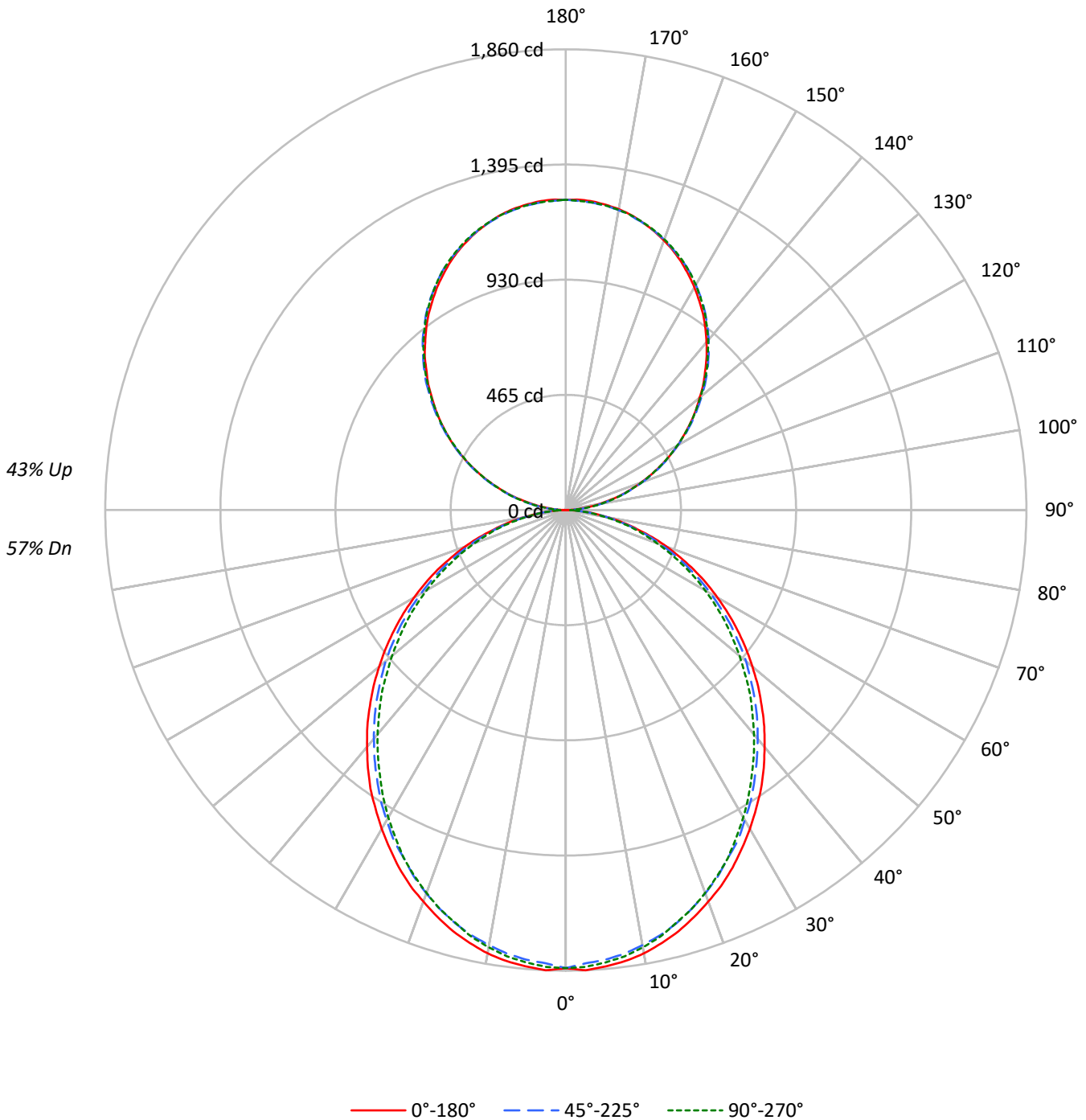
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8211.0 lumens
Efficiency: N/A
Efficacy: 77.6 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): 105.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913852
CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

Luminous Intensity Polar Plot





TEST NUMBER: P913852

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

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	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57	57	57	57
1	99	95	91	88	92	89	85	82	77	74	72	66	64	62	56	54	53	48	48	48	48
2	91	83	77	72	84	78	72	67	67	63	60	58	55	52	49	47	45	40	40	40	40
3	83	73	66	60	77	68	62	56	59	54	50	51	47	44	43	41	38	34	34	34	34
4	76	65	57	51	70	61	53	48	53	47	43	46	41	38	39	36	33	29	29	29	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	29	26	26	26	26
6	64	52	44	38	59	49	41	36	43	37	32	37	32	29	32	28	25	22	22	22	22
7	59	47	39	33	55	44	37	32	39	33	28	34	29	25	29	25	22	20	20	20	20
8	55	43	35	29	51	40	33	28	35	29	25	31	26	23	27	23	20	18	18	18	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	25	21	18	16	16	16	16
10	48	36	28	24	45	34	27	23	30	24	21	26	22	19	23	19	17	15	15	15	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4006	4006	4006
5°	4006	3941	3971
10°	3967	3880	3911
15°	3902	3807	3821
20°	3817	3710	3729
25°	3732	3595	3624
30°	3627	3488	3492
35°	3527	3363	3353
40°	3405	3237	3219
45°	3283	3109	3083
50°	3149	2975	2925
55°	3009	2820	2779
60°	2850	2638	2611
65°	2675	2447	2414
70°	2453	2215	2200
75°	2149	1936	1994
80°	1778	1582	1618
85°	1206	1000	1015

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3283 cd/sqm



TEST NUMBER: P913852

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.1	2.1
10°-20°	489.8	6.0
20°-30°	719.8	8.8
30°-40°	836.0	10.2
40°-50°	834.9	10.2
50°-60°	728.0	8.9
60°-70°	538.2	6.6
70°-80°	304.5	3.7
80°-90°	83.9	1.0
90°-100°	77.5	0.9
100°-110°	246.3	3.0
110°-120°	421.5	5.1
120°-130°	554.3	6.8
130°-140°	622.2	7.6
140°-150°	610.1	7.4
150°-160°	511.8	6.2
160°-170°	339.4	4.1
170°-180°	118.6	1.4
0°-30°	1383.6	16.9
0°-40°	2219.6	27.0
0°-60°	3782.5	46.1
0°-90°	4709.1	57.4
90°-120°	745.3	9.1
90°-150°	2532.0	30.8
90°-180°	3502.0	42.7
0°-180°	8211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1849	1849	1849	1849	1849	
5°	1849	1842	1823	1837	1834	176
15°	1760	1750	1727	1734	1725	496
25°	1593	1579	1549	1552	1549	733
35°	1375	1357	1328	1318	1309	858
45°	1119	1106	1079	1060	1053	863
55°	847	836	814	793	784	757
65°	571	560	542	526	518	564
75°	299	295	286	276	279	319
85°	73	71	69	64	62	81
90°	1	14	37	35	36	8
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	



TEST NUMBER: P913852

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1849.4	1849.4	1849.4	1849.4	1849.4
2.5°	1860.2	1851.3	1831.7	1849.4	1846.0
5°	1849.4	1842.5	1822.8	1837.0	1833.6
7.5°	1837.0	1826.5	1806.8	1821.1	1817.6
10°	1817.6	1805.1	1783.8	1797.9	1792.6
12.5°	1790.8	1780.2	1758.9	1767.8	1764.2
15°	1760.5	1750.0	1726.8	1734.0	1725.1
17.5°	1723.2	1712.7	1689.5	1698.3	1689.5
20°	1682.3	1671.7	1646.8	1652.1	1645.1
22.5°	1641.6	1625.5	1602.3	1602.3	1598.7
25°	1593.4	1579.3	1549.0	1552.4	1549.0
27.5°	1540.0	1527.6	1504.5	1499.3	1490.4
30°	1486.8	1472.4	1445.9	1440.6	1433.4
32.5°	1429.8	1419.3	1390.8	1380.0	1372.8
35°	1374.8	1357.0	1328.5	1317.7	1308.8
37.5°	1312.5	1296.4	1268.0	1255.4	1246.6
40°	1248.5	1234.1	1205.7	1189.9	1182.6
42.5°	1186.2	1171.9	1143.6	1125.7	1115.1
45°	1118.7	1106.2	1079.4	1060.0	1052.8
47.5°	1052.8	1040.4	1011.9	992.3	981.7
50°	983.4	974.5	949.7	924.7	915.8
52.5°	915.8	903.4	880.4	860.8	848.3
55°	846.6	835.8	814.5	793.2	784.3
57.5°	777.2	768.3	745.1	723.8	716.6
60°	707.7	700.8	675.9	656.2	650.9
62.5°	640.2	627.7	610.0	592.2	585.1
65°	570.9	560.2	542.5	526.4	517.5
67.5°	499.8	490.8	474.9	462.5	455.3
70°	434.0	426.8	410.7	398.3	391.3
72.5°	366.4	359.3	350.4	337.9	332.6
75°	298.7	295.3	286.2	275.7	279.2
77.5°	238.3	231.2	227.5	222.3	217.0
80°	177.9	176.0	172.5	167.2	163.6
82.5°	121.0	121.0	119.2	112.1	112.1
85°	72.8	71.1	69.4	63.9	62.3
87.5°	32.1	28.5	24.9	19.6	17.7
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5



TEST NUMBER: P913852

CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7



TEST NUMBER: P913852
 CATALOG NUMBER: DFN2DIP-PN2F0-060D050US927-FLLFLL

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	12.63	13.56	13.52	14.47	15.63	12.19	13.12	13.08	14.03	15.20
	3H	14.27	15.11	15.18	16.03	17.22	13.79	14.63	14.70	15.55	16.74
	4H	14.85	15.64	15.77	16.57	17.76	14.37	15.16	15.29	16.09	17.28
	6H	15.24	15.97	16.17	16.90	18.11	14.75	15.48	15.68	16.41	17.62
	8H	15.34	16.03	16.27	16.98	18.19	14.85	15.54	15.79	16.49	17.70
	12H	15.38	16.04	16.32	16.99	18.22	14.89	15.55	15.83	16.49	17.73
4H	2H	13.09	13.88	14.01	14.80	16.00	12.74	13.53	13.66	14.45	15.65
	3H	14.94	15.60	15.87	16.55	17.76	14.54	15.20	15.47	16.15	17.36
	4H	15.64	16.24	16.58	17.19	18.43	15.22	15.83	16.17	16.78	18.01
	6H	16.14	16.66	17.09	17.63	18.87	15.72	16.24	16.68	17.21	18.45
	8H	16.28	16.76	17.24	17.73	18.98	15.86	16.34	16.82	17.31	18.56
	12H	16.35	16.78	17.32	17.77	19.03	15.91	16.35	16.89	17.34	18.59
8H	4H	15.83	16.31	16.79	17.28	18.53	15.46	15.95	16.42	16.91	18.16
	6H	16.44	16.84	17.42	17.85	19.10	16.06	16.47	17.05	17.48	18.73
	8H	16.65	17.00	17.64	18.00	19.27	16.27	16.62	17.26	17.62	18.89
	12H	16.77	17.08	17.77	18.07	19.39	16.37	16.68	17.37	17.68	18.99
12H	4H	15.82	16.25	16.79	17.24	18.50	15.45	15.89	16.43	16.88	18.13
	6H	16.46	16.82	17.46	17.82	19.09	16.10	16.46	17.10	17.46	18.72
	8H	16.69	17.01	17.69	18.00	19.31	16.32	16.64	17.32	17.63	18.94