

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: P922007

Luminaire Tested: DFN2DIP-PN2F0-050D020US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922007
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-PN2F0-050D020US940-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

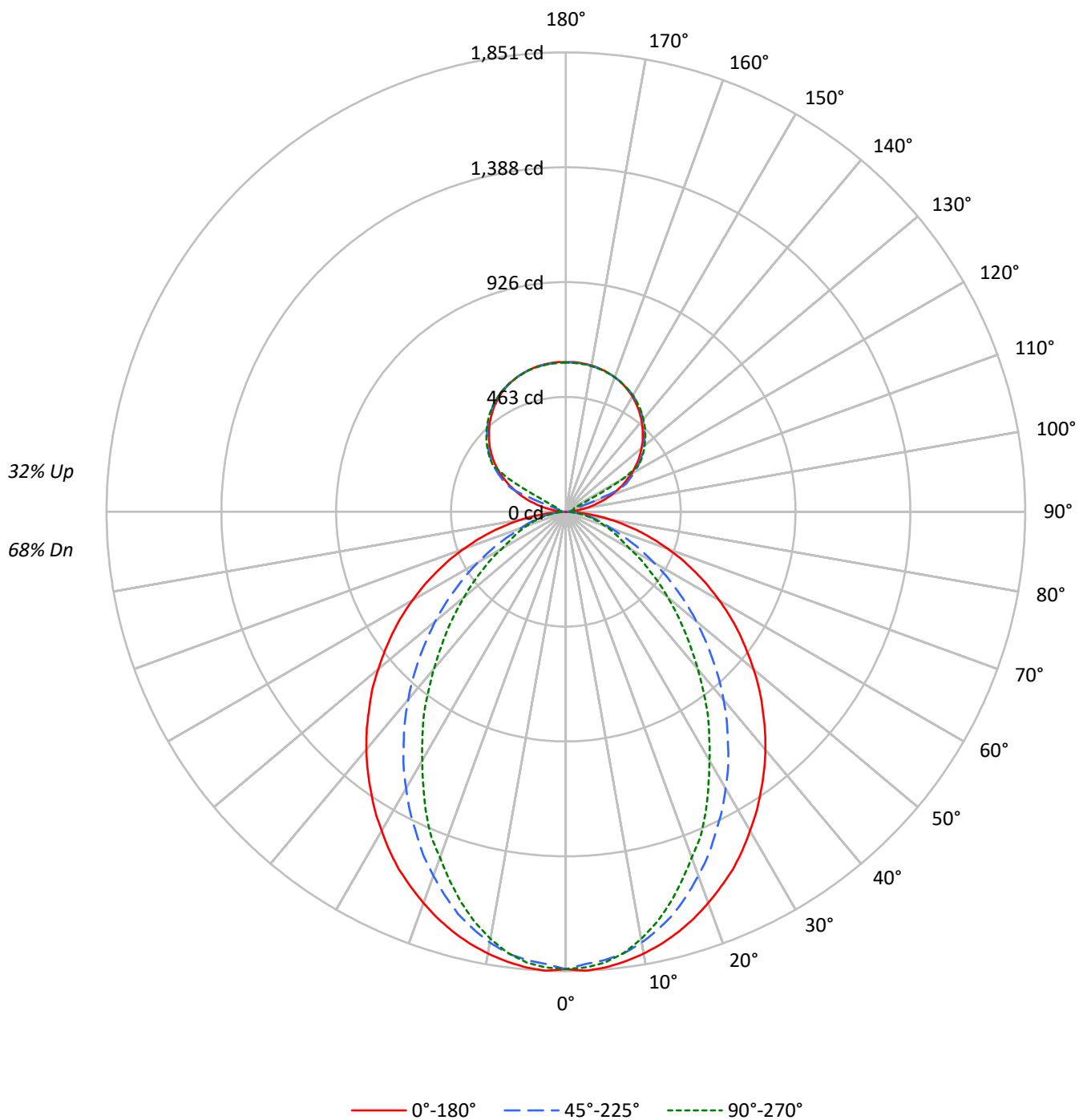
Lumens per Lamp: N/A
Luminaire Lumens: 5555.4 lumens
Efficiency: N/A
Efficacy: 82.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

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: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-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	0
RCR																				
0	111	111	111	111	105	105	105	105	93	93	93		83	83	83		73	73	73	68
1	103	98	95	91	97	93	90	87	83	81	78		74	72	70		65	64	63	59
2	94	87	81	76	88	82	77	72	74	69	66		66	63	60		58	56	54	50
3	86	77	70	64	81	73	66	61	66	60	56		59	55	51		52	49	47	43
4	79	69	61	55	75	65	58	53	59	53	49		53	48	45		47	44	41	38
5	73	62	53	48	69	59	51	46	53	47	42		48	43	39		43	39	36	33
6	68	56	47	42	64	53	46	40	48	42	38		43	39	35		39	35	32	30
7	63	50	43	37	59	48	41	36	44	38	33		40	35	31		36	32	29	26
8	58	46	38	33	55	44	37	32	40	34	30		37	32	28		33	29	26	24
9	55	42	35	30	52	41	34	29	37	31	27		34	29	25		31	27	24	22
10	51	39	32	27	48	37	31	26	34	29	25		31	27	23		29	25	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3991	3991	3991
5°	3991	3919	3947
10°	3945	3834	3813
15°	3885	3699	3609
20°	3806	3516	3361
25°	3726	3313	3121
30°	3621	3106	2819
35°	3517	2884	2554
40°	3411	2654	2252
45°	3289	2402	1977
50°	3162	2147	1710
55°	3028	1876	1454
60°	2874	1594	1191
65°	2695	1309	1066
70°	2479	1043	956
75°	2207	903	858
80°	1816	734	726
85°	1188	457	516

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3289 cd/sqm

TEST NUMBER: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.7	3.1
10°-20°	474.1	8.5
20°-30°	665.6	12.0
30°-40°	725.6	13.1
40°-50°	666.9	12.0
50°-60°	523.7	9.4
60°-70°	340.9	6.1
70°-80°	175.5	3.2
80°-90°	45.9	0.8
90°-100°	19.8	0.4
100°-110°	74.0	1.3
110°-120°	196.2	3.5
120°-130°	325.4	5.9
130°-140°	345.7	6.2
140°-150°	321.3	5.8
150°-160°	258.3	4.6
160°-170°	166.4	3.0
170°-180°	57.3	1.0
0°-30°	1312.4	23.6
0°-40°	2038.0	36.7
0°-60°	3228.6	58.1
0°-90°	3790.8	68.2
90°-120°	290.0	5.2
90°-150°	1282.5	23.1
90°-180°	1765.0	31.8
0°-180°	5555.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1834	1813	1828	1823	175
15°	1753	1734	1678	1646	1629	494
25°	1591	1538	1427	1359	1334	732
35°	1371	1286	1139	1034	997	858
45°	1121	1009	834	715	675	865
55°	852	722	542	442	410	761
65°	575	440	290	234	228	570
75°	307	190	133	122	120	324
85°	72	37	32	32	32	82
90°	0	5	9	11	12	5
95°	28	14	17	19	19	33
105°	132	145	27	31	33	141
115°	250	258	269	67	36	247
125°	354	360	368	371	372	316
135°	438	445	449	453	452	338
145°	508	508	515	518	516	318
155°	560	556	561	564	560	258
165°	590	587	588	592	588	167
175°	603	600	601	604	600	57
180°	602	602	602	602	602	

TEST NUMBER: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1842.7	1842.7	1842.7	1842.7	1842.7
2.5°	1851.0	1842.7	1824.4	1841.1	1837.7
5°	1842.7	1834.4	1812.7	1827.6	1822.7
7.5°	1827.6	1817.8	1794.4	1801.0	1792.6
10°	1807.7	1796.0	1762.7	1757.7	1747.7
12.5°	1782.7	1767.7	1722.6	1712.7	1694.2
15°	1752.7	1734.3	1677.7	1646.0	1629.3
17.5°	1717.6	1691.0	1620.9	1584.2	1557.5
20°	1677.7	1644.2	1560.8	1519.3	1482.5
22.5°	1634.3	1595.9	1499.1	1442.5	1417.6
25°	1590.9	1537.5	1427.4	1359.1	1334.0
27.5°	1539.3	1482.5	1360.8	1282.4	1244.0
30°	1484.3	1420.8	1287.4	1202.4	1157.3
32.5°	1430.8	1354.1	1217.5	1117.3	1075.6
35°	1370.8	1285.8	1139.1	1033.9	997.2
37.5°	1312.4	1220.7	1065.7	950.5	908.9
40°	1250.7	1150.8	988.8	870.5	827.2
42.5°	1187.4	1080.7	912.2	788.7	747.2
45°	1120.7	1008.9	833.8	715.3	675.3
47.5°	1057.3	939.0	758.8	640.3	603.7
50°	987.3	868.9	685.5	570.2	535.4
52.5°	918.8	793.7	615.4	505.3	473.7
55°	852.1	722.0	541.9	441.9	410.3
57.5°	783.8	650.4	477.0	383.6	356.9
60°	713.7	580.3	408.5	323.6	296.9
62.5°	645.4	512.0	350.2	270.2	256.9
65°	575.3	440.2	290.2	233.5	228.5
67.5°	508.6	373.5	233.5	205.1	200.1
70°	438.6	308.5	193.4	176.7	170.0
72.5°	371.9	248.4	161.8	148.5	145.1
75°	306.8	190.0	133.4	121.7	120.1
77.5°	241.8	135.0	105.1	98.4	95.0
80°	181.7	96.8	80.0	73.4	73.4
82.5°	126.7	65.1	55.0	51.6	51.6
85°	71.7	36.6	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
90°	0.4	5.3	8.6	10.9	11.8
92.5°	10.9	9.2	10.4	11.3	11.8
95°	28.3	13.9	16.9	19.2	18.7
97.5°	50.9	15.2	22.2	23.5	24.0
100°	77.1	17.4	24.8	28.3	29.2
102.5°	105.8	105.0	25.7	30.5	31.8
105°	132.4	145.4	26.6	31.3	33.1
107.5°	163.4	174.2	27.5	32.2	34.0
110°	193.0	202.1	76.2	32.7	34.4

TEST NUMBER: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	220.8	228.6	221.2	33.5	34.9
115°	250.4	257.8	268.8	67.1	35.8
117.5°	276.1	284.8	292.2	230.0	115.8
120°	304.9	311.4	319.2	324.5	265.6
122.5°	329.2	336.2	344.9	347.5	348.0
125°	354.1	359.7	368.0	371.0	372.4
127.5°	376.7	382.8	389.4	393.7	394.1
130°	398.1	405.0	409.8	414.6	414.2
132.5°	419.8	425.5	430.3	434.2	433.8
135°	438.2	445.1	449.0	453.4	452.5
137.5°	457.3	462.5	466.9	471.3	469.9
140°	476.0	479.6	484.3	488.2	486.1
142.5°	491.7	494.8	500.4	503.9	501.7
145°	508.3	507.8	515.2	518.3	516.1
147.5°	522.6	521.3	528.7	530.8	529.1
150°	536.5	533.5	540.5	543.1	540.9
152.5°	548.3	544.8	551.3	554.0	550.9
155°	559.6	555.7	561.0	563.6	560.1
157.5°	568.8	565.3	569.3	572.3	568.8
160°	576.7	574.0	576.7	579.3	576.2
162.5°	583.5	580.9	583.2	586.2	582.3
165°	589.7	587.1	588.4	591.5	588.4
167.5°	594.5	591.8	593.2	596.3	592.3
170°	598.4	595.8	596.6	599.7	595.8
172.5°	601.0	598.4	599.3	602.4	598.4
175°	603.2	600.1	601.0	604.0	599.7
177.5°	604.0	601.0	601.5	604.5	600.6
180°	601.9	601.9	601.9	601.9	601.9

TEST NUMBER: P922007

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US940-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	13.39	14.40	14.18	15.21	16.19	9.36	10.37	10.15	11.17	12.16
	3H	15.06	15.96	15.87	16.78	17.80	10.55	11.45	11.35	12.26	13.28
	4H	15.67	16.51	16.49	17.34	18.37	10.99	11.84	11.81	12.67	13.69
	6H	16.08	16.86	16.91	17.69	18.74	11.31	12.09	12.14	12.92	13.96
	8H	16.20	16.95	17.05	17.80	18.84	11.40	12.14	12.24	12.99	14.03
	12H	16.26	16.97	17.11	17.81	18.88	11.44	12.14	12.28	12.99	14.06
4H	2H	13.43	14.28	14.25	15.10	16.13	9.97	10.82	10.79	11.64	12.67
	3H	15.25	15.95	16.09	16.81	17.86	11.31	12.02	12.15	12.88	13.92
	4H	15.93	16.57	16.78	17.43	18.50	11.85	12.49	12.70	13.35	14.42
	6H	16.44	16.99	17.30	17.87	18.95	12.26	12.82	13.13	13.70	14.77
	8H	16.61	17.12	17.47	18.00	19.08	12.39	12.90	13.26	13.78	14.87
	12H	16.70	17.16	17.59	18.06	19.15	12.45	12.91	13.34	13.81	14.90
8H	4H	15.91	16.42	16.78	17.30	18.39	12.13	12.65	13.00	13.53	14.61
	6H	16.46	16.89	17.36	17.80	18.89	12.64	13.06	13.53	13.98	15.07
	8H	16.66	17.04	17.57	17.95	19.06	12.81	13.19	13.72	14.10	15.21
	12H	16.80	17.13	17.70	18.03	19.19	12.93	13.26	13.84	14.16	15.32
12H	4H	15.87	16.33	16.76	17.23	18.32	12.14	12.61	13.03	13.50	14.60
	6H	16.43	16.81	17.34	17.72	18.83	12.68	13.06	13.59	13.97	15.08
	8H	16.65	16.98	17.56	17.88	19.04	12.88	13.22	13.79	14.12	15.28

END OF REPORT