

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: P919277

Luminaire Tested: DFN2DIP-PN2F0-050D020US935-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919277
REPORT IS A COMBINATION OF REPORTS P900987 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-050D020US935-FLLONL
Description: 2 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

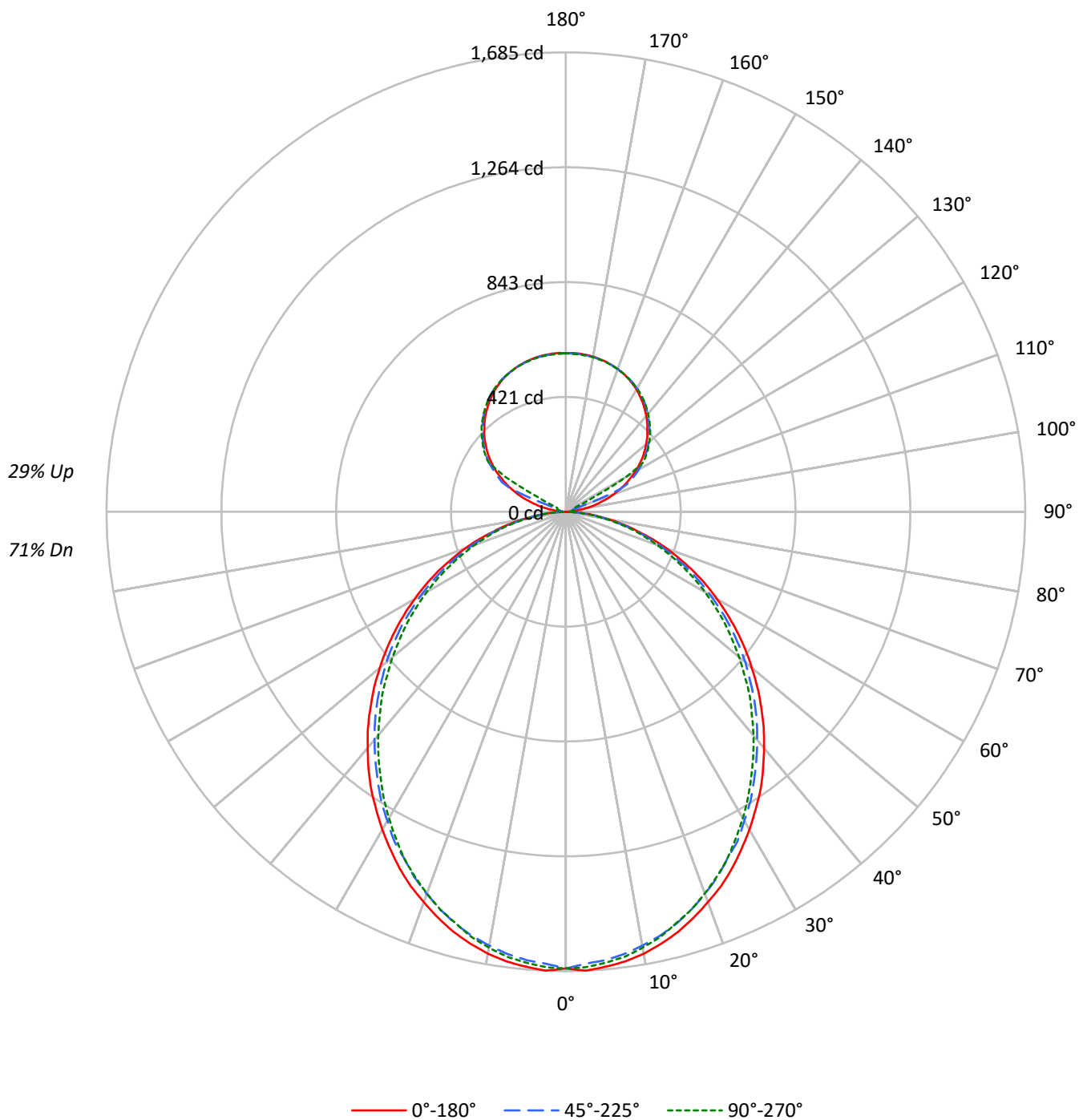
Lumens per Lamp: N/A
Luminaire Lumens: 5966.7 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 67
Input Voltage (V): 120
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: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76
1	103	98	94	90	97	93	90	86	84	81	78	75	73	71	67	66	64
2	93	86	79	74	88	81	76	71	73	69	65	66	62	59	59	56	54
3	85	75	68	62	80	72	65	59	65	59	55	58	54	50	52	49	46
4	78	67	59	52	74	64	56	50	58	52	47	52	47	43	47	43	40
5	72	60	51	45	68	57	49	44	52	45	40	47	42	38	42	38	35
6	66	54	45	39	63	51	44	38	47	40	35	42	37	33	38	34	31
7	61	49	40	35	58	47	39	34	42	36	31	39	33	29	35	31	27
8	57	44	36	31	54	42	35	30	39	33	28	35	30	26	32	28	24
9	53	41	33	28	50	39	32	27	36	30	25	33	27	24	30	25	22
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	28	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3628	3628	3628
5°	3628	3570	3596
10°	3593	3514	3542
15°	3534	3448	3461
20°	3457	3360	3378
25°	3380	3256	3282
30°	3285	3159	3163
35°	3194	3046	3037
40°	3084	2931	2916
45°	2973	2816	2792
50°	2852	2694	2650
55°	2725	2554	2517
60°	2581	2389	2366
65°	2423	2216	2186
70°	2222	2006	1993
75°	1946	1754	1807
80°	1611	1433	1466
85°	1093	906	919

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2973 cd/sqm

TEST NUMBER: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.7	2.6
10°-20°	443.6	7.4
20°-30°	651.9	10.9
30°-40°	757.2	12.7
40°-50°	756.2	12.7
50°-60°	659.4	11.1
60°-70°	487.4	8.2
70°-80°	275.8	4.6
80°-90°	73.8	1.2
90°-100°	19.2	0.3
100°-110°	71.4	1.2
110°-120°	189.5	3.2
120°-130°	314.2	5.3
130°-140°	333.8	5.6
140°-150°	310.2	5.2
150°-160°	249.4	4.2
160°-170°	160.7	2.7
170°-180°	55.3	0.9
0°-30°	1253.2	21.0
0°-40°	2010.3	33.7
0°-60°	3425.9	57.4
0°-90°	4263.0	71.4
90°-120°	280.0	4.7
90°-150°	1238.3	20.8
90°-180°	1704.0	28.6
0°-180°	5966.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1675	1675	1675	1675	1675	
5°	1675	1669	1651	1664	1661	159
15°	1595	1585	1564	1570	1562	449
25°	1443	1430	1403	1406	1403	664
35°	1245	1229	1203	1194	1186	778
45°	1013	1002	978	960	954	782
55°	767	757	738	718	710	686
65°	517	507	491	477	469	511
75°	270	267	259	250	253	289
85°	66	64	63	58	56	74
90°	0	5	8	10	11	6
95°	27	13	16	18	18	32
105°	128	140	26	30	32	137
115°	242	249	260	65	34	238
125°	342	347	355	358	360	305
135°	423	430	434	438	437	327
145°	491	490	498	500	498	307
155°	540	537	542	544	541	249
165°	569	567	568	571	568	161
175°	582	580	580	583	579	55
180°	581	581	581	581	581	

TEST NUMBER: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1675.1	1675.1	1675.1	1675.1	1675.1
2.5°	1684.8	1676.8	1659.1	1675.1	1672.1
5°	1675.1	1668.8	1651.0	1663.8	1660.8
7.5°	1663.8	1654.2	1636.5	1649.5	1646.2
10°	1646.2	1634.9	1615.7	1628.4	1623.7
12.5°	1621.9	1612.4	1593.1	1601.1	1597.8
15°	1594.6	1585.0	1564.0	1570.5	1562.5
17.5°	1560.7	1551.2	1530.2	1538.2	1530.2
20°	1523.7	1514.2	1491.6	1496.3	1490.0
22.5°	1486.8	1472.2	1451.2	1451.2	1447.9
25°	1443.2	1430.4	1403.0	1406.1	1403.0
27.5°	1394.8	1383.5	1362.7	1357.9	1349.9
30°	1346.6	1333.7	1309.6	1304.8	1298.3
32.5°	1295.0	1285.5	1259.6	1249.9	1243.5
35°	1245.1	1229.1	1203.2	1193.5	1185.5
37.5°	1188.7	1174.2	1148.4	1137.1	1129.1
40°	1130.8	1117.8	1092.0	1077.6	1071.2
42.5°	1074.4	1061.4	1035.8	1019.5	1010.0
45°	1013.2	1001.9	977.7	960.1	953.6
47.5°	953.6	942.3	916.5	898.7	889.2
50°	890.7	882.7	860.1	837.6	829.5
52.5°	829.5	818.2	797.4	779.6	768.4
55°	766.8	757.1	737.7	718.4	710.4
57.5°	703.9	695.9	674.9	655.6	649.0
60°	641.0	634.7	612.2	594.3	589.6
62.5°	579.9	568.6	552.5	536.4	529.9
65°	517.1	507.4	491.3	476.8	468.7
67.5°	452.7	444.5	430.2	418.9	412.3
70°	393.0	386.6	372.0	360.8	354.5
72.5°	331.9	325.4	317.4	306.1	301.3
75°	270.5	267.4	259.2	249.7	253.0
77.5°	215.9	209.3	206.1	201.3	196.6
80°	161.2	159.5	156.2	151.4	148.2
82.5°	109.5	109.5	108.0	101.5	101.5
85°	66.0	64.4	62.9	57.9	56.4
87.5°	29.0	25.8	22.6	17.7	16.1
90°	0.4	5.1	8.4	10.5	11.4
92.5°	10.5	8.9	10.1	10.9	11.4
95°	27.3	13.4	16.4	18.5	18.1
97.5°	49.2	14.7	21.4	22.7	23.2
100°	74.5	16.8	23.9	27.3	28.2
102.5°	102.2	101.3	24.8	29.4	30.7
105°	127.9	140.4	25.7	30.2	31.9
107.5°	157.7	168.2	26.5	31.1	32.8
110°	186.3	195.1	73.6	31.6	33.2

TEST NUMBER: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	213.2	220.8	213.6	32.4	33.7
115°	241.8	248.9	259.5	64.7	34.5
117.5°	266.6	275.0	282.1	222.1	111.8
120°	294.4	300.7	308.2	313.3	256.5
122.5°	317.9	324.6	333.0	335.5	336.0
125°	341.9	347.3	355.3	358.3	359.6
127.5°	363.8	369.6	376.0	380.1	380.6
130°	384.3	391.1	395.7	400.4	399.9
132.5°	405.4	410.9	415.4	419.2	418.9
135°	423.1	429.8	433.5	437.8	437.0
137.5°	441.5	446.6	450.8	455.0	453.7
140°	459.6	463.0	467.6	471.4	469.3
142.5°	474.8	477.8	483.2	486.5	484.4
145°	490.8	490.3	497.5	500.4	498.3
147.5°	504.6	503.3	510.5	512.6	510.9
150°	518.1	515.1	521.9	524.3	522.3
152.5°	529.4	526.1	532.4	534.9	531.9
155°	540.4	536.6	541.7	544.2	540.8
157.5°	549.2	545.9	549.7	552.6	549.2
160°	556.8	554.2	556.8	559.3	556.4
162.5°	563.4	560.9	563.1	566.0	562.2
165°	569.4	566.9	568.1	571.1	568.1
167.5°	574.0	571.4	572.7	575.7	571.9
170°	577.8	575.2	576.1	579.0	575.2
172.5°	580.3	577.8	578.7	581.6	577.8
175°	582.4	579.5	580.3	583.2	579.0
177.5°	583.2	580.3	580.7	583.7	579.9
180°	581.2	581.2	581.2	581.2	581.2

TEST NUMBER: P919277

CATALOG NUMBER: DFN2DIP-PN2F0-050D020US935-FLLONL

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	13.41	14.51	14.16	15.28	16.20	12.98	14.07	13.72	14.84	15.77
	3H	15.07	16.05	15.83	16.83	17.79	14.59	15.57	15.35	16.35	17.31
	4H	15.65	16.58	16.43	17.37	18.34	15.17	16.10	15.95	16.89	17.86
	6H	16.05	16.91	16.84	17.70	18.69	15.56	16.42	16.36	17.22	18.20
	8H	16.15	16.97	16.96	17.79	18.77	15.67	16.48	16.47	17.30	18.29
	12H	16.20	16.98	17.01	17.79	18.80	15.71	16.49	16.52	17.30	18.31
4H	2H	13.89	14.82	14.67	15.61	16.58	13.54	14.47	14.32	15.26	16.23
	3H	15.75	16.53	16.55	17.35	18.34	15.35	16.13	16.15	16.95	17.94
	4H	16.46	17.17	17.27	17.99	19.00	16.05	16.75	16.86	17.58	18.59
	6H	16.97	17.58	17.80	18.43	19.45	16.55	17.16	17.38	18.01	19.03
	8H	17.12	17.69	17.95	18.53	19.56	16.69	17.26	17.52	18.11	19.14
	12H	17.19	17.70	18.04	18.57	19.61	16.76	17.27	17.61	18.13	19.17
8H	4H	16.67	17.24	17.50	18.08	19.11	16.30	16.87	17.13	17.71	18.74
	6H	17.28	17.75	18.14	18.64	19.67	16.91	17.38	17.77	18.27	19.30
	8H	17.49	17.91	18.36	18.79	19.84	17.11	17.53	17.98	18.41	19.46
	12H	17.62	17.99	18.49	18.86	19.97	17.22	17.59	18.10	18.47	19.57
12H	4H	16.66	17.17	17.51	18.04	19.08	16.30	16.81	17.15	17.68	18.72
	6H	17.31	17.73	18.18	18.61	19.66	16.95	17.37	17.82	18.25	19.30
	8H	17.55	17.92	18.42	18.79	19.89	17.18	17.55	18.05	18.42	19.52