

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: P919730

Luminaire Tested: DFN2DIP-PN4F0-100D040US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P919730
REPORT IS A COMBINATION OF REPORTS P899622 AND P896497
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-100D040US935-RLLFLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

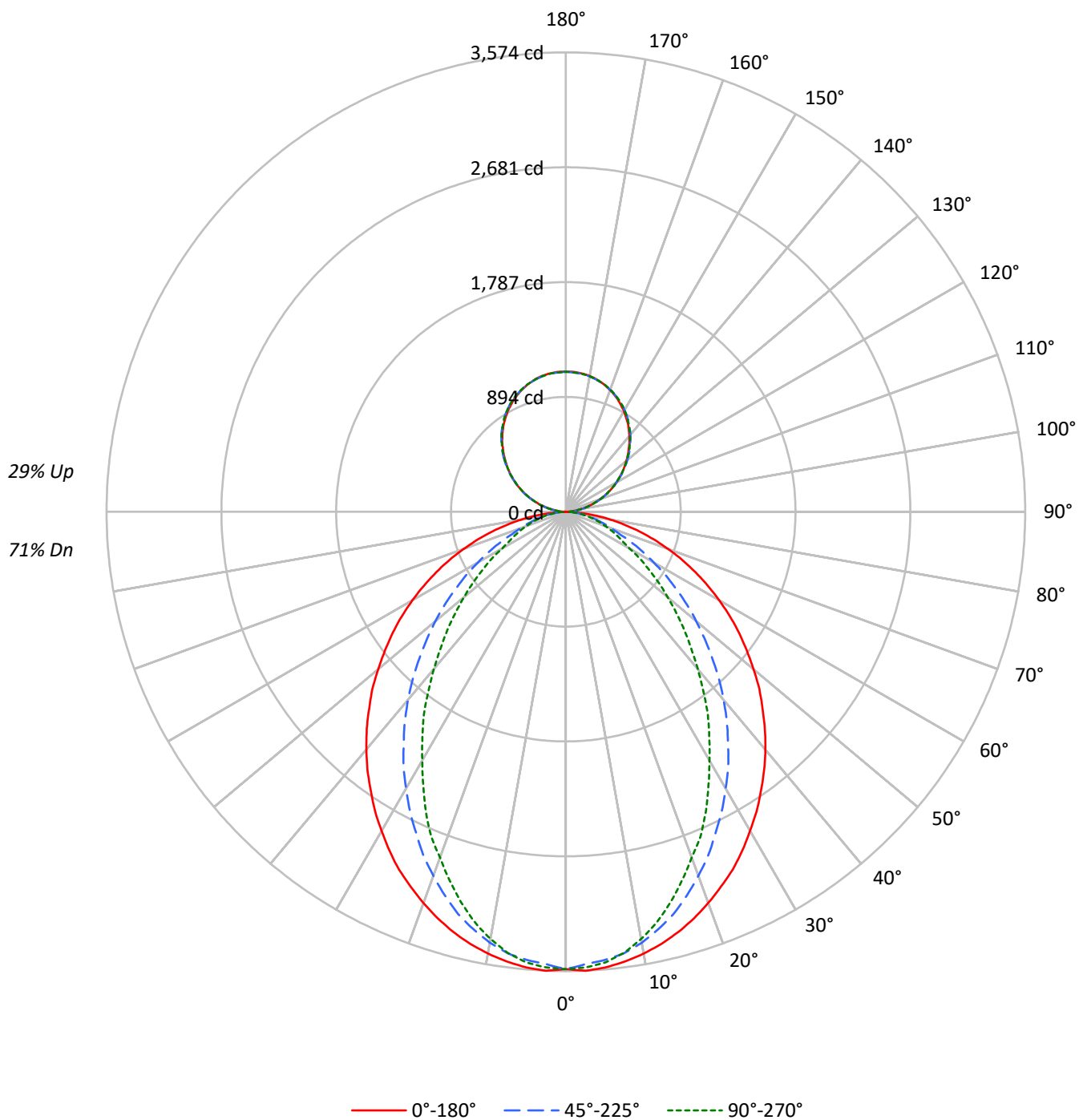
Lumens per Lamp: N/A
Luminaire Lumens: 10366.4 lumens
Efficiency: N/A
Efficacy: 79.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 131.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLLFLL

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		75	75	75
1	103	99	95	92		97	94	90	88		84	82	79		76	74	72		67	66	65
2	94	87	81	76		89	83	78	73		75	71	67		67	64	61		60	58	56
3	87	77	70	64		82	74	67	62		67	61	57		60	56	53		54	51	48
4	80	69	61	55		75	66	59	53		60	54	49		54	49	46		49	45	42
5	74	62	54	48		69	59	52	46		54	48	43		49	44	40		44	40	37
6	68	56	48	42		64	54	46	41		49	43	38		44	39	36		40	36	33
7	63	51	43	37		60	49	41	36		45	38	34		41	36	32		37	33	30
8	59	47	39	33		56	45	37	32		41	35	31		37	32	29		34	30	27
9	55	43	35	30		52	41	34	29		38	32	28		35	30	26		32	28	24
10	52	39	32	27		49	38	31	27		35	29	25		32	27	24		30	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2598	2598	2598
5°	2602	2557	2573
10°	2576	2507	2490
15°	2540	2424	2361
20°	2494	2310	2202
25°	2446	2183	2049
30°	2381	2052	1855
35°	2318	1911	1684
40°	2253	1765	1489
45°	2179	1603	1311
50°	2101	1440	1138
55°	2021	1265	971
60°	1927	1083	800
65°	1820	897	721
70°	1690	724	653
75°	1526	639	595
80°	1289	537	518
85°	898	360	392

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2179 cd/sqm

TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.5	3.2
10°-20°	915.5	8.8
20°-30°	1285.4	12.4
30°-40°	1401.2	13.5
40°-50°	1287.8	12.4
50°-60°	1011.4	9.8
60°-70°	658.3	6.4
70°-80°	338.9	3.3
80°-90°	89.6	0.9
90°-100°	67.4	0.7
100°-110°	214.2	2.1
110°-120°	366.5	3.5
120°-130°	482.0	4.6
130°-140°	541.0	5.2
140°-150°	530.5	5.1
150°-160°	445.0	4.3
160°-170°	295.1	2.8
170°-180°	103.2	1.0
0°-30°	2534.4	24.4
0°-40°	3935.6	38.0
0°-60°	6234.8	60.1
0°-90°	7321.6	70.6
90°-120°	648.0	6.3
90°-150°	2201.5	21.2
90°-180°	3045.0	29.4
0°-180°	10366.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3558	3558	3558	3558	3558	
5°	3558	3542	3500	3530	3520	337
15°	3385	3349	3240	3178	3146	954
25°	3072	2969	2757	2625	2576	1413
35°	2647	2483	2200	1997	1926	1657
45°	2164	1948	1610	1381	1304	1671
55°	1646	1394	1046	854	792	1470
65°	1111	850	560	451	441	1102
75°	592	367	258	235	232	627
85°	138	71	61	61	61	159
90°	1	12	32	30	31	10
95°	48	57	59	59	57	53
105°	198	200	202	204	204	209
115°	368	373	371	370	368	364
125°	535	543	540	538	537	478
135°	692	702	704	703	700	535
145°	840	846	852	853	849	525
155°	960	963	966	971	968	442
165°	1045	1044	1044	1050	1046	295
175°	1087	1085	1083	1089	1084	103
180°	1089	1089	1089	1089	1089	

TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3558.5	3558.5	3558.5	3558.5	3558.5
2.5°	3574.5	3558.5	3522.9	3555.4	3548.9
5°	3558.5	3542.4	3500.4	3529.5	3519.8
7.5°	3529.5	3510.3	3465.2	3477.8	3461.8
10°	3490.8	3468.3	3404.0	3394.1	3375.0
12.5°	3442.7	3413.6	3326.5	3307.4	3271.8
15°	3384.6	3349.0	3239.7	3178.5	3146.4
17.5°	3316.9	3265.3	3130.1	3059.3	3007.7
20°	3239.7	3175.1	3014.2	2933.9	2862.8
22.5°	3156.0	3081.9	2894.9	2785.7	2737.5
25°	3072.3	2969.2	2756.6	2624.7	2576.2
27.5°	2972.5	2862.8	2627.8	2476.4	2402.3
30°	2866.3	2743.6	2486.0	2322.0	2234.9
32.5°	2763.1	2614.8	2351.0	2157.7	2077.0
35°	2647.2	2482.9	2199.7	1996.7	1925.6
37.5°	2534.5	2357.2	2057.9	1835.5	1755.1
40°	2415.3	2222.2	1909.6	1681.0	1597.3
42.5°	2292.9	2086.9	1761.7	1523.2	1442.9
45°	2164.1	1948.2	1610.3	1381.4	1304.2
47.5°	2041.9	1813.3	1465.4	1236.5	1165.8
50°	1906.5	1677.9	1323.6	1101.2	1033.9
52.5°	1774.3	1532.7	1188.3	975.8	914.6
55°	1645.5	1394.4	1046.5	853.5	792.3
57.5°	1513.6	1255.9	921.2	740.7	689.1
60°	1378.3	1120.7	788.9	624.9	573.3
62.5°	1246.4	988.8	676.1	521.8	496.1
65°	1111.1	850.1	560.3	451.0	441.1
67.5°	982.3	721.3	451.0	396.0	386.4
70°	847.0	595.9	373.4	341.3	328.4
72.5°	718.2	479.7	312.3	286.6	280.2
75°	592.5	367.0	257.6	235.1	232.0
77.5°	467.1	260.7	202.9	189.9	183.5
80°	350.9	186.9	154.5	141.8	141.8
82.5°	244.6	125.7	106.2	99.8	99.8
85°	138.4	70.7	61.1	61.1	61.1
87.5°	51.6	25.7	25.7	22.6	22.6
90°	0.9	11.8	32.2	30.2	31.2
92.5°	20.3	27.6	28.6	29.5	29.5
95°	48.0	57.2	58.8	58.8	57.2
97.5°	79.8	88.3	92.0	92.0	92.0
100°	116.6	124.2	126.7	126.7	125.8
102.5°	155.3	160.9	164.5	165.5	164.5
105°	197.7	200.3	202.2	203.9	203.9
107.5°	239.7	243.7	243.7	244.3	239.7
110°	280.4	285.7	285.7	285.7	283.1

TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	324.4	330.0	329.0	326.4	324.4
115°	367.7	373.1	371.3	370.4	367.7
117.5°	410.8	418.0	413.5	410.8	408.2
120°	454.2	461.3	454.2	454.2	451.2
122.5°	493.5	502.7	498.2	495.5	493.5
125°	534.9	543.1	540.5	537.5	536.6
127.5°	575.3	585.5	581.9	577.9	575.3
130°	613.0	624.9	623.3	621.3	617.7
132.5°	655.4	664.6	665.3	660.6	658.1
135°	691.9	702.1	704.0	703.0	700.4
137.5°	732.6	740.8	742.4	741.7	737.9
140°	768.4	776.6	781.2	781.2	777.6
142.5°	805.2	813.4	816.0	817.0	813.4
145°	840.0	846.5	851.8	852.8	849.2
147.5°	871.2	879.3	883.3	884.9	881.3
150°	903.4	909.0	912.6	915.5	912.6
152.5°	931.9	937.5	942.1	945.7	942.1
155°	960.4	963.1	966.0	970.7	967.7
157.5°	985.2	987.0	988.7	995.3	990.7
160°	1007.1	1009.1	1010.0	1015.6	1011.7
162.5°	1027.4	1027.4	1028.5	1034.7	1030.1
165°	1044.9	1043.9	1043.9	1050.4	1045.9
167.5°	1060.7	1057.6	1057.6	1064.3	1059.6
170°	1072.5	1069.8	1068.8	1075.4	1069.8
172.5°	1080.6	1078.1	1077.0	1083.7	1078.1
175°	1087.3	1084.6	1082.6	1089.2	1083.7
177.5°	1090.9	1088.2	1086.2	1091.8	1086.2
180°	1089.2	1089.2	1089.2	1089.2	1089.2

TEST NUMBER: P919730

CATALOG NUMBER: DFN2DIP-PN4F0-100D040US935-RLLFLL

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	12.21	13.24	12.98	14.03	14.97	8.18	9.21	8.94	9.99	10.94
	3H	13.91	14.83	14.69	15.62	16.60	9.38	10.30	10.16	11.10	12.07
	4H	14.53	15.40	15.32	16.20	17.19	9.84	10.71	10.64	11.51	12.50
	6H	14.96	15.76	15.77	16.57	17.57	10.17	10.98	10.98	11.78	12.78
	8H	15.09	15.86	15.91	16.68	17.69	10.27	11.03	11.09	11.86	12.86
	12H	15.16	15.89	15.99	16.71	17.74	10.32	11.05	11.14	11.87	12.90
4H	2H	12.25	13.12	13.05	13.92	14.91	8.80	9.67	9.60	10.47	11.46
	3H	14.10	14.83	14.92	15.66	16.67	10.17	10.89	10.98	11.72	12.73
	4H	14.81	15.46	15.63	16.30	17.33	10.72	11.38	11.55	12.21	13.25
	6H	15.34	15.90	16.18	16.76	17.80	11.15	11.72	12.00	12.58	13.62
	8H	15.52	16.05	16.36	16.90	17.95	11.29	11.82	12.13	12.67	13.72
	12H	15.62	16.10	16.49	16.97	18.03	11.36	11.84	12.23	12.71	13.77
8H	4H	14.79	15.32	15.63	16.17	17.22	11.02	11.55	11.87	12.40	13.45
	6H	15.37	15.80	16.24	16.70	17.75	11.55	11.98	12.42	12.88	13.93
	8H	15.59	15.97	16.47	16.86	17.93	11.74	12.13	12.62	13.02	14.08
	12H	15.73	16.08	16.62	16.96	18.08	11.87	12.21	12.75	13.09	14.21
12H	4H	14.75	15.23	15.62	16.10	17.15	11.03	11.51	11.90	12.38	13.44
	6H	15.34	15.73	16.23	16.62	17.69	11.60	11.99	12.48	12.88	13.94
	8H	15.57	15.92	16.46	16.80	17.92	11.82	12.16	12.70	13.04	14.16

END OF REPORT