

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: P916646

Luminaire Tested: DFN2DIP-PN3F0-050D030US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916646
REPORT IS A COMBINATION OF REPORTS P899516 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-050D030US930-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

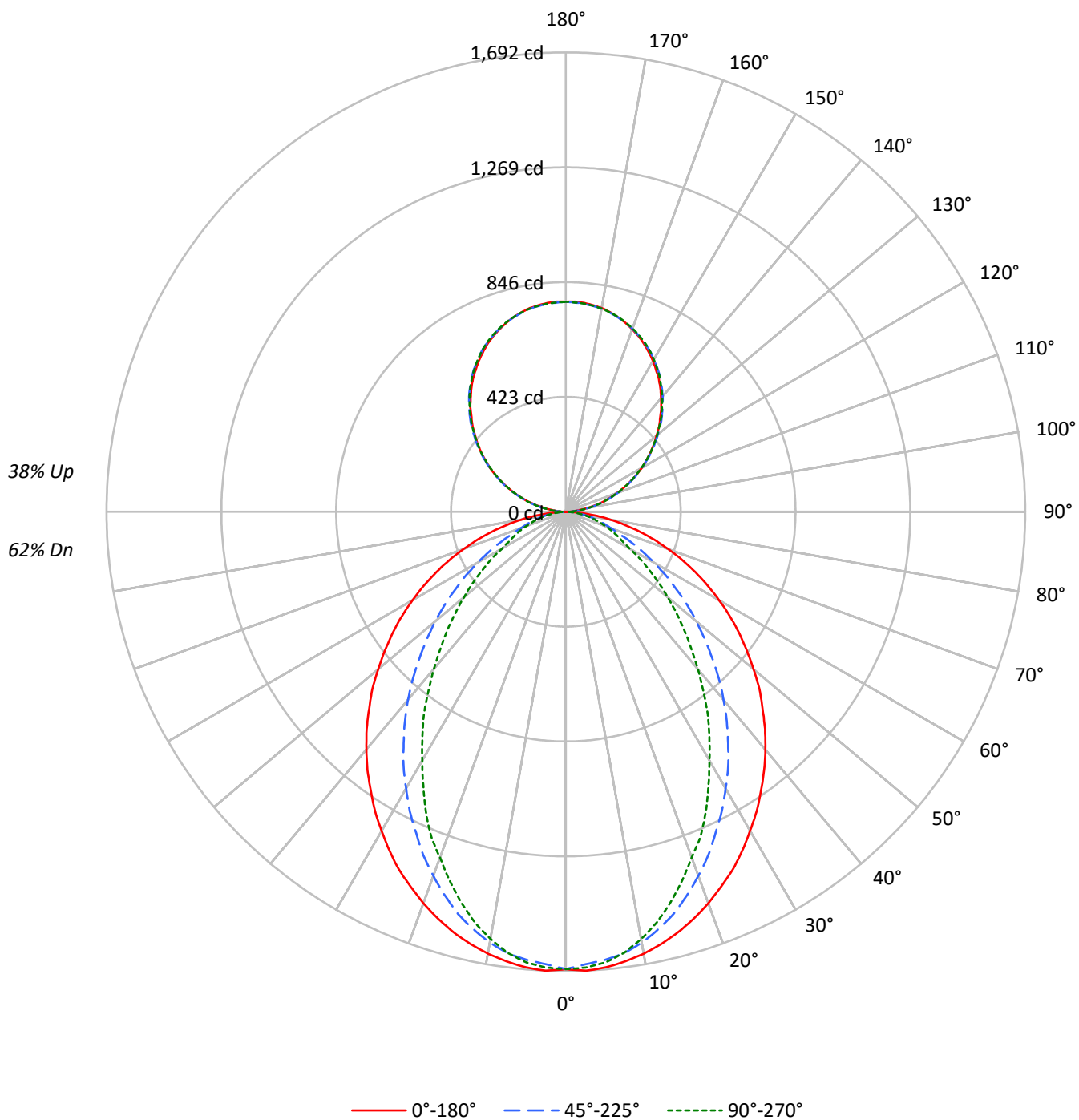
Lumens per Lamp: N/A
Luminaire Lumens: 5629.6 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 68.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916646

CATALOG NUMBER: DFN2DIP-PN3F0-050D030US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P916646

CATALOG NUMBER: DFN2DIP-PN3F0-050D030US930-RLFL

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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	101	97	93	90	94	91	88	85	80	77	75	69	68	66	60	59	58
2	92	85	79	74	86	80	75	70	71	67	63	62	59	56	53	51	49
3	85	75	68	63	79	71	65	60	63	58	54	55	51	48	48	45	43
4	78	67	60	54	73	63	57	51	56	51	46	49	45	42	43	40	37
5	72	60	52	46	67	57	50	44	51	45	41	45	40	37	39	36	33
6	66	54	46	41	62	51	44	39	46	40	36	41	36	32	36	32	29
7	62	49	42	36	58	47	40	35	42	36	32	37	33	29	33	29	26
8	57	45	37	32	54	43	36	31	38	33	28	34	30	26	30	27	24
9	53	41	34	29	50	39	32	28	35	30	26	32	27	24	28	24	22
10	50	38	31	26	47	36	30	25	33	27	23	29	25	22	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1970	1970	1970
5°	1971	1937	1950
10°	1951	1898	1885
15°	1923	1833	1787
20°	1886	1746	1666
25°	1848	1648	1549
30°	1798	1547	1401
35°	1749	1439	1271
40°	1699	1328	1122
45°	1641	1204	987
50°	1581	1080	856
55°	1518	947	729
60°	1445	808	599
65°	1361	667	539
70°	1259	536	486
75°	1131	469	440
80°	946	389	379
85°	643	253	280

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1641 cd/sqm

TEST NUMBER: P916646

CATALOG NUMBER: DFN2DIP-PN3F0-050D030US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	2.8
10°-20°	433.5	7.7
20°-30°	608.6	10.8
30°-40°	663.4	11.8
40°-50°	609.7	10.8
50°-60°	478.8	8.5
60°-70°	311.7	5.5
70°-80°	160.4	2.8
80°-90°	43.1	0.8
90°-100°	47.9	0.9
100°-110°	152.1	2.7
110°-120°	260.3	4.6
120°-130°	342.3	6.1
130°-140°	384.2	6.8
140°-150°	376.8	6.7
150°-160°	316.1	5.6
160°-170°	209.6	3.7
170°-180°	73.3	1.3
0°-30°	1200.0	21.3
0°-40°	1863.4	33.1
0°-60°	2951.9	52.4
0°-90°	3467.2	61.6
90°-120°	460.2	8.2
90°-150°	1563.5	27.8
90°-180°	2162.0	38.4
0°-180°	5629.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1677	1657	1671	1667	160
15°	1602	1586	1534	1505	1490	452
25°	1455	1406	1305	1243	1220	669
35°	1253	1176	1042	945	912	784
45°	1025	922	762	654	617	791
55°	779	660	496	404	375	696
65°	526	402	265	214	209	521
75°	280	174	122	111	110	297
85°	66	34	29	29	29	75
90°	1	8	23	21	22	6
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	

TEST NUMBER: P916646

CATALOG NUMBER: DFN2DIP-PN3F0-050D030US930-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.8	1684.8	1684.8	1684.8	1684.8
2.5°	1692.4	1684.8	1668.0	1683.3	1680.2
5°	1684.8	1677.2	1657.3	1671.0	1666.6
7.5°	1671.0	1662.0	1640.6	1646.7	1639.0
10°	1652.8	1642.1	1611.7	1607.0	1597.9
12.5°	1629.9	1616.2	1575.0	1565.9	1549.1
15°	1602.5	1585.7	1533.9	1505.0	1489.7
17.5°	1570.4	1546.1	1482.0	1448.5	1424.0
20°	1533.9	1503.3	1427.1	1389.1	1355.4
22.5°	1494.3	1459.1	1370.7	1318.9	1296.1
25°	1454.6	1405.7	1305.1	1242.7	1219.7
27.5°	1407.4	1355.4	1244.1	1172.5	1137.4
30°	1357.1	1299.0	1177.0	1099.3	1058.1
32.5°	1308.2	1238.0	1113.1	1021.6	983.4
35°	1253.4	1175.6	1041.5	945.3	911.7
37.5°	1200.0	1116.1	974.4	869.0	831.0
40°	1143.5	1052.1	904.1	795.9	756.3
42.5°	1085.7	988.1	834.1	721.1	683.1
45°	1024.7	922.4	762.4	654.0	617.4
47.5°	966.7	858.5	693.8	585.5	552.0
50°	902.7	794.4	626.7	521.4	489.5
52.5°	840.1	725.7	562.6	462.0	433.1
55°	779.1	660.1	495.5	404.1	375.1
57.5°	716.6	594.7	436.1	350.7	326.3
60°	652.6	530.6	373.5	295.9	271.4
62.5°	590.1	468.1	320.2	247.0	234.9
65°	526.0	402.5	265.3	213.5	208.9
67.5°	465.0	341.5	213.5	187.5	183.0
70°	401.0	282.1	176.8	161.6	155.5
72.5°	340.1	227.1	147.9	135.7	132.6
75°	280.5	173.7	122.0	111.3	109.8
77.5°	221.1	123.4	96.1	89.9	86.8
80°	166.2	88.5	73.1	67.1	67.1
82.5°	115.9	59.5	50.3	47.2	47.2
85°	65.5	33.5	28.9	28.9	28.9
87.5°	24.5	12.1	12.1	10.7	10.7
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1

TEST NUMBER: P916646

CATALOG NUMBER: DFN2DIP-PN3F0-050D030US930-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6

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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	10.48	11.42	11.34	12.29	13.39	6.45	7.38	7.30	8.26	9.35
	3H	12.16	13.00	13.03	13.88	15.01	7.64	8.47	8.51	9.36	10.48
	4H	12.77	13.56	13.66	14.45	15.58	8.09	8.88	8.97	9.77	10.90
	6H	13.19	13.92	14.09	14.81	15.96	8.41	9.13	9.31	10.03	11.18
	8H	13.32	14.01	14.22	14.92	16.07	8.50	9.19	9.41	10.10	11.25
	12H	13.38	14.04	14.29	14.95	16.12	8.54	9.20	9.45	10.11	11.28
4H	2H	10.51	11.30	11.40	12.19	13.32	7.05	7.84	7.94	8.73	9.87
	3H	12.34	13.00	13.24	13.92	15.07	8.40	9.06	9.31	9.98	11.13
	4H	13.03	13.63	13.95	14.55	15.72	8.95	9.55	9.86	10.47	11.64
	6H	13.55	14.06	14.48	15.00	16.18	9.37	9.88	10.30	10.82	12.00
	8H	13.72	14.20	14.65	15.14	16.33	9.50	9.98	10.43	10.91	12.10
	12H	13.82	14.25	14.77	15.20	16.40	9.56	9.99	10.51	10.95	12.14
8H	4H	13.01	13.49	13.94	14.42	15.61	9.24	9.71	10.17	10.65	11.84
	6H	13.57	13.97	14.53	14.94	16.13	9.75	10.14	10.70	11.12	12.31
	8H	13.78	14.13	14.75	15.10	16.31	9.93	10.29	10.90	11.25	12.46
	12H	13.92	14.23	14.89	15.19	16.45	10.05	10.36	11.02	11.32	12.58
12H	4H	12.96	13.39	13.91	14.35	15.54	9.24	9.68	10.19	10.63	11.83
	6H	13.54	13.90	14.51	14.86	16.07	9.80	10.15	10.76	11.12	12.32
	8H	13.77	14.07	14.73	15.04	16.29	10.01	10.31	10.97	11.28	12.53