

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: P924261

Luminaire Tested: DFN2DIP-HX2F0-020D060US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924261
REPORT IS A COMBINATION OF REPORTS P900712 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-020D060US950-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

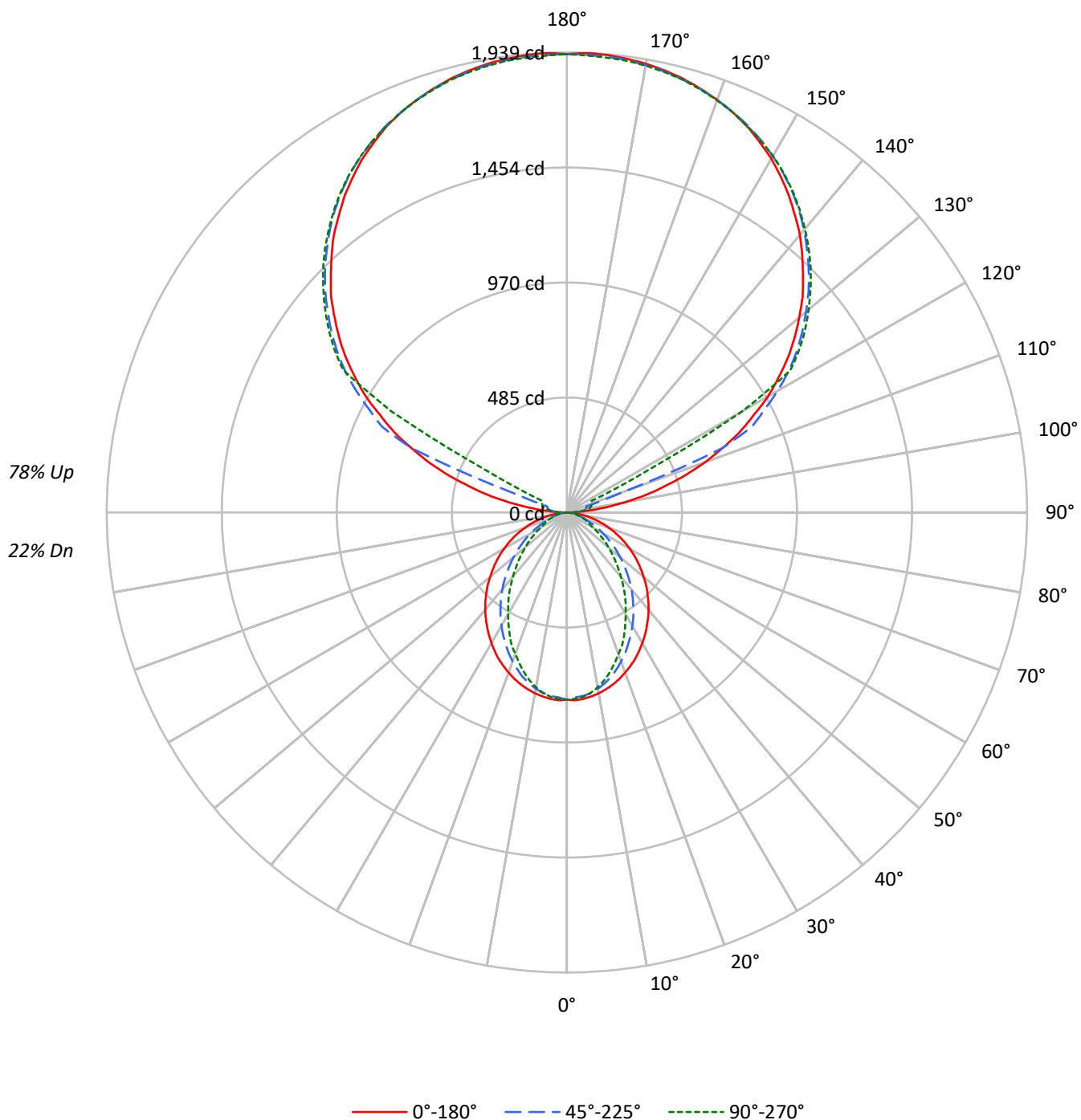
Lumens per Lamp: N/A
Luminaire Lumens: 7288.5 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-RLLONL

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	101	101	101	101		89	89	89	89		68	68	68		49	49	49		31	31	31
1	92	88	84	81		81	78	75	72		60	58	56		43	42	41		27	27	26
2	84	77	71	66		74	68	64	60		52	49	47		38	36	34		24	23	22
3	76	68	61	55		68	60	55	50		46	43	39		34	31	29		22	20	19
4	70	60	52	47		62	53	47	42		41	37	34		30	27	25		20	18	17
5	64	53	46	40		57	48	41	36		37	32	29		27	24	22		18	16	15
6	59	48	40	35		52	43	36	31		33	29	25		24	21	19		16	14	13
7	54	43	35	30		48	38	32	27		30	25	22		22	19	17		15	13	12
8	50	39	32	27		45	35	29	24		27	23	20		20	17	15		14	12	10
9	47	35	28	23		42	32	26	21		25	20	17		19	16	13		12	11	9
10	44	32	25	21		39	29	23	19		23	19	16		17	14	12		12	10	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1858	1858	1858
5°	1858	1824	1837
10°	1837	1784	1774
15°	1808	1721	1678
20°	1772	1635	1562
25°	1735	1540	1450
30°	1686	1444	1309
35°	1637	1340	1186
40°	1588	1233	1044
45°	1531	1115	917
50°	1472	997	793
55°	1410	870	673
60°	1339	739	551
65°	1255	606	492
70°	1155	482	441
75°	1028	416	394
80°	847	337	332
85°	552	208	232

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1767 cd/sqm

TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	1.0
10°-20°	202.9	2.8
20°-30°	284.8	3.9
30°-40°	310.5	4.3
40°-50°	285.4	3.9
50°-60°	224.1	3.1
60°-70°	145.9	2.0
70°-80°	75.1	1.0
80°-90°	22.6	0.3
90°-100°	63.7	0.9
100°-110°	237.5	3.3
110°-120°	629.8	8.6
120°-130°	1044.5	14.3
130°-140°	1109.5	15.2
140°-150°	1031.2	14.1
150°-160°	829.1	11.4
160°-170°	534.2	7.3
170°-180°	183.9	2.5
0°-30°	561.6	7.7
0°-40°	872.1	12.0
0°-60°	1381.7	19.0
0°-90°	1625.2	22.3
90°-120°	930.9	12.8
90°-150°	4116.2	56.5
90°-180°	5663.0	77.7
0°-180°	7288.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	789	789	789	789	789	
5°	789	785	776	782	780	75
15°	750	742	718	704	697	211
25°	681	658	611	582	571	313
35°	587	550	488	442	427	367
45°	480	432	357	306	289	370
55°	365	309	232	189	176	326
65°	246	188	124	100	98	244
75°	131	81	57	52	51	139
85°	31	16	14	14	14	35
90°	1	17	28	35	38	7
95°	91	45	54	62	60	108
105°	425	467	85	101	106	454
115°	804	828	862	215	115	791
125°	1136	1155	1181	1191	1195	1014
135°	1406	1429	1441	1455	1452	1086
145°	1631	1630	1654	1663	1656	1020
155°	1796	1784	1800	1809	1798	828
165°	1893	1884	1888	1898	1888	535
175°	1936	1926	1929	1939	1925	184
180°	1932	1932	1932	1932	1932	

TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	788.6	788.6	788.6	788.6	788.6
2.5°	792.1	788.6	780.7	787.9	786.5
5°	788.6	785.0	775.7	782.2	780.0
7.5°	782.2	777.9	767.9	770.7	767.1
10°	773.6	768.5	754.3	752.1	747.9
12.5°	762.9	756.4	737.2	733.0	725.0
15°	750.0	742.1	717.9	704.3	697.3
17.5°	735.1	723.6	693.7	677.9	666.6
20°	717.9	703.6	668.0	650.2	634.4
22.5°	699.4	683.0	641.6	617.3	606.6
25°	680.9	658.0	610.8	581.7	570.9
27.5°	658.7	634.4	582.3	548.7	532.3
30°	635.2	608.0	550.9	514.6	495.2
32.5°	612.3	579.5	521.0	478.1	460.3
35°	586.6	550.3	487.5	442.5	426.7
37.5°	561.6	522.3	456.0	406.8	388.9
40°	535.2	492.5	423.2	372.5	353.9
42.5°	508.1	462.5	390.4	337.5	319.8
45°	479.6	431.7	356.9	306.1	289.0
47.5°	452.5	401.8	324.7	274.0	258.3
50°	422.5	371.9	293.4	244.0	229.2
52.5°	393.1	339.6	263.3	216.3	202.7
55°	364.6	309.0	231.9	189.2	175.5
57.5°	335.4	278.3	204.2	164.2	152.7
60°	305.5	248.3	174.9	138.5	127.1
62.5°	276.2	219.1	149.9	115.6	109.9
65°	246.2	188.4	124.2	100.0	97.8
67.5°	217.7	159.8	100.0	87.8	85.7
70°	187.7	132.0	82.7	75.7	72.8
72.5°	159.1	106.3	69.2	63.5	62.1
75°	131.3	81.3	57.0	52.1	51.4
77.5°	103.5	57.8	44.9	42.1	40.6
80°	77.8	41.4	34.2	31.4	31.4
82.5°	54.2	27.9	23.6	22.1	22.1
85°	30.6	15.6	13.5	13.5	13.5
87.5°	11.4	5.7	5.7	5.0	5.0
90°	1.3	16.8	27.9	35.0	37.7
92.5°	35.0	29.4	33.5	36.3	37.7
95°	90.8	44.6	54.5	61.6	60.1
97.5°	163.5	48.9	71.2	75.6	76.9
100°	247.5	55.9	79.7	90.8	93.6
102.5°	339.6	337.0	82.5	97.8	102.1
105°	424.9	466.9	85.3	100.6	106.3
107.5°	524.2	559.0	88.1	103.4	109.0
110°	619.3	648.5	244.7	104.9	110.4

TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	708.7	733.8	710.1	107.5	111.9
115°	803.7	827.5	862.5	215.3	114.7
117.5°	886.2	914.1	938.0	738.0	371.8
120°	978.5	999.4	1024.7	1041.4	852.7
122.5°	1056.7	1079.1	1107.1	1115.4	1116.9
125°	1136.4	1154.6	1181.1	1191.0	1195.1
127.5°	1209.1	1228.7	1249.7	1263.7	1265.0
130°	1277.6	1300.0	1315.3	1330.7	1329.4
132.5°	1347.5	1365.7	1381.0	1393.6	1392.3
135°	1406.3	1428.7	1441.1	1455.2	1452.4
137.5°	1467.6	1484.4	1498.5	1512.5	1508.4
140°	1527.7	1539.1	1554.4	1566.9	1560.0
142.5°	1578.2	1588.0	1606.2	1617.2	1610.3
145°	1631.3	1629.8	1653.6	1663.4	1656.4
147.5°	1677.3	1673.1	1696.9	1703.8	1698.4
150°	1722.2	1712.3	1734.8	1743.1	1736.1
152.5°	1759.8	1748.7	1769.6	1778.1	1768.2
155°	1796.2	1783.7	1800.5	1808.8	1797.6
157.5°	1825.6	1814.4	1827.0	1836.8	1825.6
160°	1850.8	1842.3	1850.8	1859.1	1849.3
162.5°	1873.0	1864.7	1871.7	1881.5	1868.9
165°	1892.6	1884.3	1888.4	1898.3	1888.4
167.5°	1908.0	1899.6	1903.9	1913.7	1901.0
170°	1920.7	1912.2	1915.1	1924.8	1912.2
172.5°	1929.0	1920.7	1923.5	1933.3	1920.7
175°	1936.0	1926.1	1929.0	1938.7	1924.8
177.5°	1938.7	1929.0	1930.4	1940.2	1927.7
180°	1931.8	1931.8	1931.8	1931.8	1931.8

TEST NUMBER: P924261

CATALOG NUMBER: DFN2DIP-HX2F0-020D060US950-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	5.74	6.38	6.90	7.53	9.15	1.72	2.37	2.89	3.52	5.14
	3H	7.37	7.95	8.55	9.11	10.74	2.88	3.46	4.05	4.61	6.25
	4H	7.96	8.51	9.14	9.66	11.30	3.31	3.86	4.49	5.02	6.65
	6H	8.35	8.85	9.54	10.01	11.66	3.61	4.11	4.79	5.27	6.92
	8H	8.46	8.94	9.65	10.11	11.75	3.68	4.16	4.87	5.34	6.98
	12H	8.50	8.96	9.70	10.13	11.79	3.71	4.17	4.91	5.33	7.00
4H	2H	5.73	6.28	6.92	7.43	9.07	2.28	2.83	3.47	3.99	5.62
	3H	7.51	7.97	8.71	9.15	10.80	3.59	4.05	4.79	5.23	6.88
	4H	8.18	8.60	9.37	9.77	11.44	4.12	4.54	5.31	5.71	7.38
	6H	8.66	9.02	9.86	10.21	11.87	4.51	4.87	5.71	6.06	7.72
	8H	8.82	9.15	10.01	10.34	12.01	4.62	4.96	5.82	6.14	7.82
	12H	8.89	9.19	10.10	10.39	12.07	4.67	4.98	5.88	6.17	7.85
8H	4H	8.13	8.46	9.32	9.65	11.32	4.37	4.71	5.57	5.89	7.56
	6H	8.66	8.94	9.88	10.16	11.83	4.86	5.13	6.07	6.36	8.03
	8H	8.86	9.10	10.08	10.30	11.99	5.03	5.27	6.26	6.48	8.17
	12H	8.97	9.18	10.20	10.38	12.11	5.13	5.34	6.35	6.54	8.27
12H	4H	8.07	8.37	9.28	9.57	11.25	4.36	4.67	5.58	5.86	7.54
	6H	8.63	8.87	9.85	10.08	11.77	4.90	5.14	6.12	6.34	8.04
	8H	8.83	9.04	10.05	10.24	11.96	5.09	5.30	6.31	6.50	8.22

END OF REPORT