

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: P907941

Luminaire Tested: DFN2DIP-HX2F0-050D030US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907941
REPORT IS A COMBINATION OF REPORTS P900688 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-050D030US840-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

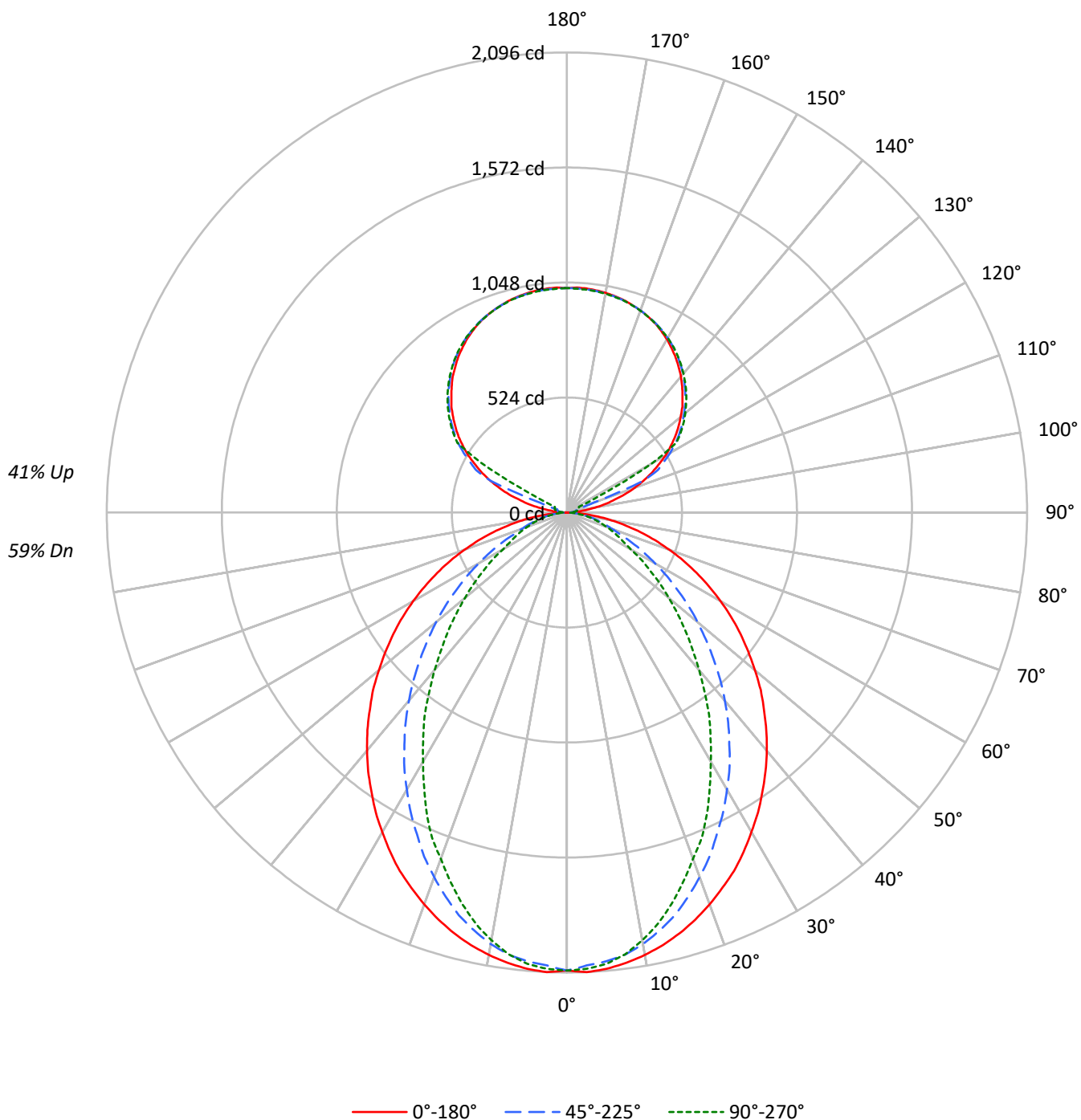
Lumens per Lamp: N/A
Luminaire Lumens: 7291.3 lumens
Efficiency: N/A
Efficacy: 105.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 69.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907941

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US840-RLLONL

Luminous Intensity Polar Plot



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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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	55
2	92	85	79	74	86	79	74	70	69	65	62	60	57	55	51	49	48
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	43	41
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	34	32
6	66	54	46	40	61	51	44	38	45	39	35	40	35	32	35	31	28
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25
8	57	45	37	32	53	42	35	30	38	32	28	33	29	25	29	26	23
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	23	21
10	50	38	31	26	46	36	29	25	32	27	23	29	24	21	25	22	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4917	4917	4917
5°	4917	4827	4861
10°	4861	4721	4694
15°	4786	4554	4441
20°	4690	4328	4134
25°	4591	4077	3838
30°	4461	3820	3465
35°	4333	3546	3138
40°	4203	3263	2765
45°	4053	2951	2426
50°	3896	2637	2097
55°	3732	2303	1781
60°	3542	1955	1457
65°	3322	1604	1302
70°	3057	1276	1166
75°	2721	1103	1042
80°	2239	893	877
85°	1466	552	616

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4053 cd/sqm

TEST NUMBER: P907941

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US840-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.6	2.7
10°-20°	536.9	7.4
20°-30°	753.8	10.3
30°-40°	821.7	11.3
40°-50°	755.2	10.4
50°-60°	593.1	8.1
60°-70°	386.1	5.3
70°-80°	198.7	2.7
80°-90°	52.5	0.7
90°-100°	33.7	0.5
100°-110°	125.7	1.7
110°-120°	333.3	4.6
120°-130°	552.9	7.6
130°-140°	587.3	8.1
140°-150°	545.8	7.5
150°-160°	438.8	6.0
160°-170°	282.8	3.9
170°-180°	97.3	1.3
0°-30°	1486.3	20.4
0°-40°	2308.0	31.7
0°-60°	3656.4	50.1
0°-90°	4293.8	58.9
90°-120°	492.7	6.8
90°-150°	2178.7	29.9
90°-180°	2998.0	41.1
0°-180°	7291.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2087	2078	2053	2070	2064	198
15°	1985	1964	1900	1864	1845	559
25°	1802	1741	1617	1539	1511	829
35°	1552	1456	1290	1171	1129	972
45°	1269	1143	944	810	765	980
55°	965	818	614	500	465	862
65°	652	499	329	264	259	646
75°	348	215	151	138	136	368
85°	81	42	36	36	36	93
90°	1	9	15	19	20	7
95°	48	24	29	33	32	57
105°	225	247	45	53	56	240
115°	425	438	456	114	61	419
125°	602	611	625	630	633	536
135°	744	756	763	770	769	575
145°	863	863	875	880	877	540
155°	951	944	953	957	952	438
165°	1002	997	1000	1005	1000	283
175°	1025	1020	1021	1026	1019	98
180°	1022	1022	1022	1022	1022	

TEST NUMBER: P907941

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2086.9	2086.9	2086.9	2086.9	2086.9
2.5°	2096.3	2086.9	2066.1	2085.1	2081.2
5°	2086.9	2077.5	2052.9	2069.8	2064.3
7.5°	2069.8	2058.6	2032.2	2039.6	2030.1
10°	2047.2	2034.0	1996.3	1990.5	1979.2
12.5°	2018.9	2002.0	1950.9	1939.6	1918.7
15°	1984.9	1964.1	1900.0	1864.1	1845.2
17.5°	1945.2	1915.0	1835.6	1794.1	1763.8
20°	1900.0	1862.1	1767.7	1720.6	1678.9
22.5°	1850.9	1807.4	1697.8	1633.7	1605.4
25°	1801.7	1741.2	1616.6	1539.2	1510.8
27.5°	1743.2	1678.9	1541.1	1452.3	1408.9
30°	1680.9	1609.0	1457.9	1361.7	1310.6
32.5°	1620.4	1533.5	1378.8	1265.4	1218.1
35°	1552.5	1456.1	1290.0	1170.9	1129.3
37.5°	1486.3	1382.4	1206.9	1076.4	1029.4
40°	1416.4	1303.2	1119.8	985.8	936.8
42.5°	1344.7	1223.9	1033.1	893.2	846.2
45°	1269.2	1142.6	944.3	810.1	764.8
47.5°	1197.4	1063.4	859.4	725.2	683.7
50°	1118.1	984.0	776.3	645.8	606.3
52.5°	1040.6	898.9	696.9	572.3	536.4
55°	965.0	817.7	613.7	500.5	464.6
57.5°	887.7	736.6	540.2	434.4	404.1
60°	808.3	657.2	462.6	366.5	336.2
62.5°	730.9	579.9	396.6	306.0	290.9
65°	651.6	498.6	328.6	264.5	258.7
67.5°	576.0	423.0	264.5	232.3	226.6
70°	496.8	349.4	219.0	200.2	192.6
72.5°	421.2	281.3	183.2	168.1	164.3
75°	347.5	215.2	151.1	137.8	136.0
77.5°	273.9	152.9	119.1	111.4	107.6
80°	205.8	109.6	90.6	83.1	83.1
82.5°	143.5	73.7	62.3	58.5	58.5
85°	81.2	41.5	35.9	35.9	35.9
87.5°	30.3	15.0	15.0	13.2	13.2
90°	0.7	8.9	14.7	18.6	19.9
92.5°	18.6	15.6	17.8	19.3	19.9
95°	48.1	23.6	28.8	32.6	31.8
97.5°	86.5	26.0	37.7	40.0	40.7
100°	131.0	29.6	42.2	48.1	49.6
102.5°	179.8	178.3	43.6	51.7	54.0
105°	224.9	247.1	45.1	53.2	56.2
107.5°	277.4	295.9	46.7	54.7	57.8
110°	327.8	343.3	129.5	55.5	58.5

TEST NUMBER: P907941

CATALOG NUMBER: DFN2DIP-HX2F0-050D030US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	375.2	388.4	375.9	57.0	59.2
115°	425.4	438.0	456.5	113.9	60.7
117.5°	469.1	483.8	496.4	390.6	196.8
120°	517.9	529.0	542.3	551.2	451.3
122.5°	559.3	571.2	586.0	590.4	591.2
125°	601.5	611.1	625.2	630.4	632.6
127.5°	640.0	650.3	661.5	668.8	669.5
130°	676.2	688.1	696.2	704.3	703.7
132.5°	713.2	722.9	730.9	737.6	736.9
135°	744.3	756.2	762.8	770.2	768.7
137.5°	776.8	785.7	793.1	800.5	798.3
140°	808.6	814.6	822.6	829.3	825.7
142.5°	835.4	840.5	850.1	856.0	852.3
145°	863.4	862.6	875.3	880.4	876.7
147.5°	887.8	885.6	898.2	901.8	898.9
150°	911.5	906.4	918.2	922.5	918.9
152.5°	931.4	925.5	936.7	941.1	935.9
155°	950.7	944.1	952.9	957.4	951.5
157.5°	966.2	960.4	967.0	972.2	966.2
160°	979.6	975.1	979.6	984.0	978.8
162.5°	991.4	986.9	990.7	995.8	989.2
165°	1001.7	997.3	999.6	1004.7	999.6
167.5°	1009.9	1005.4	1007.6	1012.9	1006.2
170°	1016.5	1012.1	1013.6	1018.8	1012.1
172.5°	1021.0	1016.5	1018.0	1023.2	1016.5
175°	1024.6	1019.5	1021.0	1026.1	1018.8
177.5°	1026.1	1021.0	1021.8	1026.9	1020.3
180°	1022.5	1022.5	1022.5	1022.5	1022.5

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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	13.34	14.24	14.22	15.14	16.29	9.32	10.23	10.20	11.13	12.27
	3H	14.99	15.81	15.89	16.72	17.88	10.50	11.31	11.39	12.22	13.38
	4H	15.59	16.36	16.50	17.27	18.45	10.94	11.70	11.85	12.62	13.80
	6H	15.99	16.70	16.92	17.62	18.81	11.25	11.95	12.17	12.88	14.06
	8H	16.11	16.78	17.04	17.72	18.91	11.33	12.00	12.26	12.94	14.13
	12H	16.17	16.81	17.10	17.74	18.95	11.37	12.01	12.31	12.94	14.16
4H	2H	13.36	14.13	14.28	15.04	16.22	9.91	10.68	10.83	11.59	12.77
	3H	15.17	15.80	16.09	16.75	17.94	11.25	11.88	12.17	12.83	14.02
	4H	15.84	16.42	16.78	17.36	18.58	11.78	12.36	12.72	13.30	14.52
	6H	16.34	16.84	17.29	17.80	19.02	12.19	12.69	13.14	13.65	14.87
	8H	16.50	16.97	17.45	17.93	19.16	12.31	12.77	13.26	13.73	14.96
	12H	16.59	17.01	17.56	17.98	19.22	12.37	12.79	13.34	13.76	15.00
8H	4H	15.81	16.28	16.77	17.24	18.47	12.05	12.52	13.01	13.48	14.71
	6H	16.35	16.74	17.33	17.74	18.97	12.55	12.94	13.53	13.94	15.17
	8H	16.55	16.89	17.54	17.88	19.13	12.73	13.07	13.72	14.06	15.31
	12H	16.68	16.98	17.67	17.96	19.26	12.84	13.14	13.83	14.12	15.42
12H	4H	15.77	16.19	16.74	17.16	18.40	12.06	12.48	13.03	13.45	14.69
	6H	16.33	16.67	17.32	17.66	18.91	12.59	12.93	13.58	13.92	15.17
	8H	16.53	16.83	17.52	17.82	19.11	12.79	13.09	13.78	14.07	15.37