

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: P918842

Luminaire Tested: DFN2DIP-HX2F0-040D060US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918842
REPORT IS A COMBINATION OF REPORTS P899195 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-040D060US935-FLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

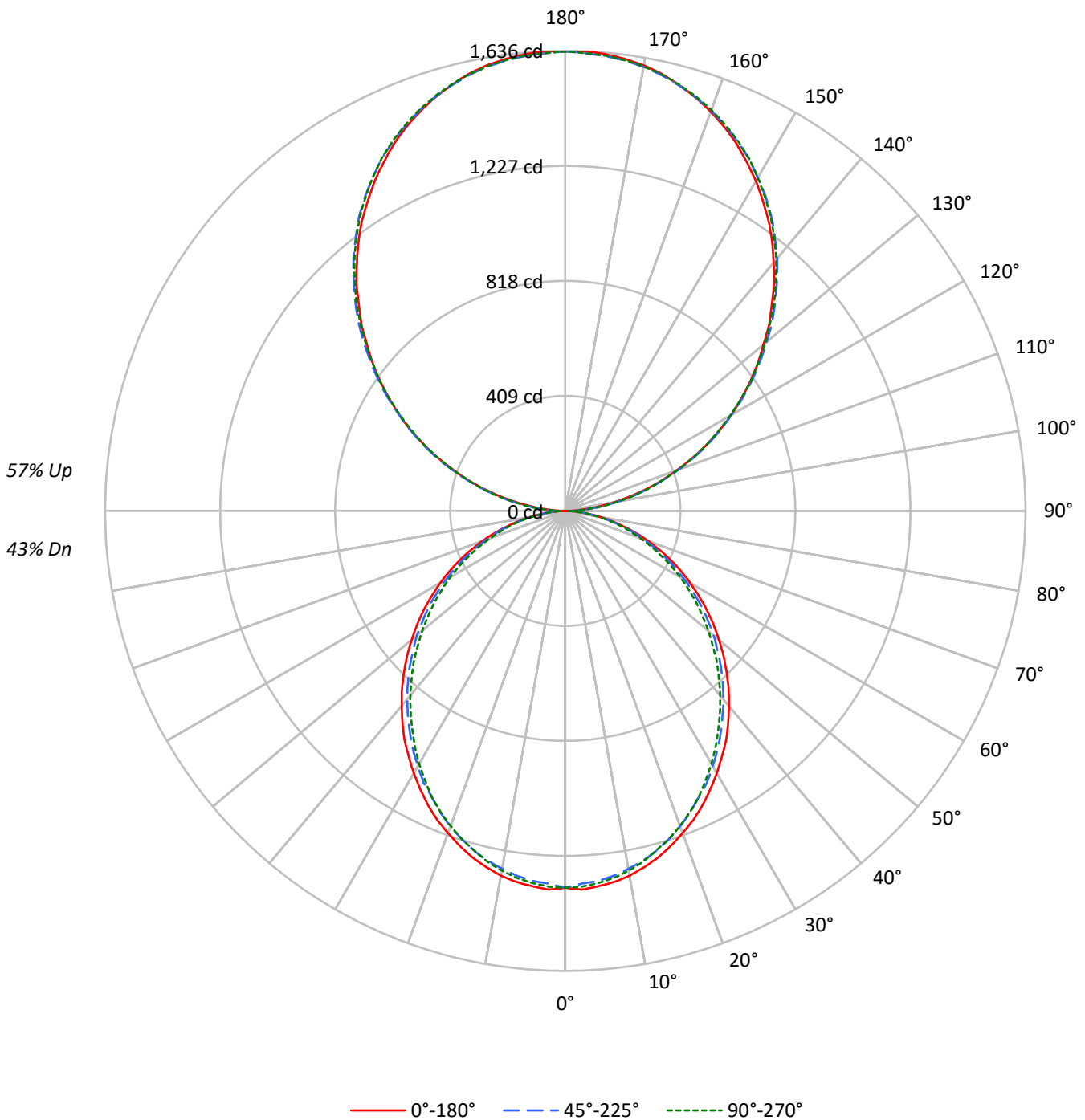
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7981.4 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 84.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P918842
CATALOG NUMBER: DFN2DIP-HX2F0-040D060US935-FLLFLL

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	49	49	49	43
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	44	43	42	44	43	42	36
2	88	80	74	69	80	73	68	64	61	57	54	49	47	44	38	37	35	38	37	35	30
3	80	70	63	57	73	65	58	53	54	49	45	44	40	37	34	32	30	34	32	30	26
4	73	62	55	49	66	57	50	45	48	43	39	39	35	32	30	28	26	30	28	26	22
5	67	56	47	42	61	51	44	39	43	37	33	35	31	28	27	25	22	27	25	22	19
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	29	24	21	23	20	18	23	20	18	15
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3157	3157	3157
5°	3157	3106	3129
10°	3127	3057	3080
15°	3076	2999	3009
20°	3009	2921	2935
25°	2942	2830	2851
30°	2859	2745	2746
35°	2780	2646	2635
40°	2685	2545	2529
45°	2588	2444	2420
50°	2483	2337	2295
55°	2373	2215	2178
60°	2247	2070	2045
65°	2109	1918	1888
70°	1934	1734	1716
75°	1695	1513	1551
80°	1403	1231	1252
85°	953	773	774

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2588 cd/sqm



TEST NUMBER: P918842

CATALOG NUMBER: DFN2DIP-HX2F0-040D060US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.1	1.6
10°-20°	354.9	4.4
20°-30°	521.5	6.5
30°-40°	605.7	7.6
40°-50°	605.0	7.6
50°-60°	527.5	6.6
60°-70°	389.9	4.9
70°-80°	220.6	2.8
80°-90°	62.9	0.8
90°-100°	101.1	1.3
100°-110°	321.2	4.0
110°-120°	549.7	6.9
120°-130°	723.0	9.1
130°-140°	811.5	10.2
140°-150°	795.8	10.0
150°-160°	667.5	8.4
160°-170°	442.7	5.5
170°-180°	154.7	1.9
0°-30°	1002.5	12.6
0°-40°	1608.3	20.1
0°-60°	2740.7	34.3
0°-90°	3414.2	42.8
90°-120°	972.0	12.2
90°-150°	3302.3	41.4
90°-180°	4567.0	57.2
0°-180°	7981.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1340	1340	1340	1340	1340	
5°	1340	1335	1321	1331	1329	127
15°	1276	1268	1251	1256	1250	359
25°	1154	1144	1122	1125	1122	531
35°	996	983	963	955	948	622
45°	810	802	782	768	763	626
55°	614	606	590	575	568	548
65°	414	406	393	381	375	409
75°	216	214	207	200	202	231
85°	53	52	50	46	45	59
90°	2	18	48	45	47	8
95°	72	86	88	88	86	80
105°	296	300	303	306	306	313
115°	552	560	557	556	552	546
125°	802	815	811	806	805	717
135°	1038	1053	1056	1055	1051	802
145°	1260	1270	1278	1279	1274	787
155°	1441	1445	1449	1456	1452	663
165°	1567	1566	1566	1576	1569	442
175°	1631	1627	1624	1634	1625	155
180°	1634	1634	1634	1634	1634	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1340.1	1340.1	1340.1	1340.1	1340.1
2.5°	1347.9	1341.4	1327.2	1340.1	1337.6
5°	1340.1	1335.0	1320.8	1331.0	1328.6
7.5°	1331.0	1323.4	1309.1	1319.6	1317.0
10°	1317.0	1307.9	1292.5	1302.8	1298.9
12.5°	1297.5	1289.9	1274.4	1280.9	1278.2
15°	1275.7	1268.0	1251.2	1256.4	1250.0
17.5°	1248.6	1241.0	1224.2	1230.5	1224.2
20°	1218.9	1211.3	1193.3	1197.0	1192.1
22.5°	1189.4	1177.8	1161.0	1161.0	1158.4
25°	1154.5	1144.3	1122.4	1124.9	1122.4
27.5°	1115.9	1106.8	1090.2	1086.3	1079.9
30°	1077.3	1066.9	1047.7	1043.8	1038.6
32.5°	1036.0	1028.4	1007.7	1000.0	994.7
35°	996.1	983.3	962.6	954.8	948.4
37.5°	951.0	939.3	918.7	909.7	903.3
40°	904.7	894.2	873.6	862.1	857.0
42.5°	859.5	849.1	828.6	815.6	808.0
45°	810.5	801.6	782.1	768.1	762.8
47.5°	762.8	753.8	733.2	719.0	711.4
50°	712.6	706.1	688.1	670.0	663.6
52.5°	663.6	654.6	637.9	623.7	614.7
55°	613.5	605.6	590.2	574.7	568.3
57.5°	563.1	556.7	539.8	524.4	519.3
60°	512.8	507.7	489.7	475.5	471.7
62.5°	463.9	454.9	442.0	429.1	424.0
65°	413.7	405.9	393.0	381.4	375.1
67.5°	362.1	355.6	344.1	335.1	329.9
70°	314.4	309.3	297.6	288.6	283.5
72.5°	265.5	260.3	253.9	244.9	241.0
75°	216.5	214.0	207.4	199.8	202.3
77.5°	172.6	167.5	164.9	161.0	157.2
80°	128.9	127.5	124.9	121.1	118.6
82.5°	87.6	87.6	86.4	81.2	81.2
85°	52.8	51.6	50.3	46.3	45.1
87.5°	23.2	20.7	18.1	14.2	12.8
90°	1.5	17.7	48.3	45.3	46.8
92.5°	30.6	41.4	42.9	44.3	44.3
95°	71.9	85.7	88.2	88.2	85.7
97.5°	119.7	132.5	137.9	137.9	137.9
100°	174.9	186.1	190.1	190.1	188.6
102.5°	233.0	241.3	246.8	248.2	246.8
105°	296.5	300.5	303.4	305.9	305.9
107.5°	359.6	365.5	365.5	366.4	359.6
110°	420.7	428.5	428.5	428.5	424.6



TEST NUMBER: P918842

CATALOG NUMBER: DFN2DIP-HX2F0-040D060US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	486.6	495.0	493.5	489.6	486.6
115°	551.6	559.6	557.1	555.6	551.6
117.5°	616.2	627.1	620.1	616.2	612.3
120°	681.2	692.1	681.2	681.2	676.7
122.5°	740.3	754.1	747.2	743.3	740.3
125°	802.4	814.7	810.7	806.3	804.9
127.5°	863.0	878.2	872.8	866.9	863.0
130°	919.6	937.4	934.9	931.9	926.5
132.5°	983.2	996.9	997.9	991.0	987.0
135°	1037.8	1053.1	1056.0	1054.6	1050.6
137.5°	1098.9	1111.2	1113.7	1112.7	1106.8
140°	1152.6	1164.9	1171.8	1171.8	1166.4
142.5°	1207.7	1220.0	1224.0	1225.5	1220.0
145°	1260.0	1269.8	1277.7	1279.2	1273.8
147.5°	1306.7	1319.0	1325.0	1327.4	1322.0
150°	1355.0	1363.4	1368.8	1373.2	1368.8
152.5°	1397.8	1406.3	1413.2	1418.6	1413.2
155°	1440.7	1444.7	1449.1	1456.0	1451.6
157.5°	1477.6	1480.7	1483.1	1493.0	1486.1
160°	1510.7	1513.6	1515.1	1523.4	1517.6
162.5°	1541.2	1541.2	1542.6	1552.0	1545.1
165°	1567.3	1565.8	1565.8	1575.7	1568.8
167.5°	1591.0	1586.6	1586.6	1596.4	1589.5
170°	1608.7	1604.7	1603.3	1613.1	1604.7
172.5°	1621.0	1617.0	1615.6	1625.4	1617.0
175°	1630.8	1626.9	1623.9	1633.8	1625.4
177.5°	1636.2	1632.4	1629.4	1637.7	1629.4
180°	1633.8	1633.8	1633.8	1633.8	1633.8



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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	10.42	11.22	11.44	12.25	13.62	10.00	10.80	11.01	11.82	13.19
	3H	12.05	12.77	13.08	13.80	15.19	11.59	12.31	12.62	13.34	14.73
	4H	12.62	13.30	13.66	14.34	15.73	12.16	12.84	13.20	13.88	15.28
	6H	13.00	13.62	14.05	14.66	16.07	12.54	13.16	13.59	14.20	15.62
	8H	13.09	13.69	14.14	14.74	16.15	12.63	13.23	13.69	14.29	15.69
	12H	13.13	13.69	14.19	14.74	16.17	12.66	13.23	13.72	14.28	15.71
4H	2H	10.87	11.54	11.91	12.58	13.98	10.53	11.21	11.57	12.24	13.64
	3H	12.70	13.26	13.75	14.33	15.74	12.31	12.88	13.37	13.95	15.36
	4H	13.39	13.91	14.45	14.96	16.40	12.99	13.51	14.05	14.57	16.00
	6H	13.88	14.32	14.95	15.40	16.83	13.48	13.93	14.55	15.01	16.44
	8H	14.01	14.43	15.08	15.50	16.95	13.62	14.03	14.69	15.10	16.55
	12H	14.07	14.45	15.16	15.53	16.98	13.67	14.04	14.75	15.13	16.58
8H	4H	13.57	13.99	14.64	15.06	16.50	13.22	13.64	14.29	14.71	16.15
	6H	14.17	14.51	15.26	15.63	17.07	13.82	14.16	14.91	15.28	16.72
	8H	14.37	14.67	15.47	15.77	17.23	14.02	14.32	15.12	15.42	16.88
	12H	14.48	14.75	15.59	15.84	17.34	14.12	14.38	15.22	15.47	16.97
12H	4H	13.55	13.93	14.64	15.01	16.46	13.21	13.58	14.29	14.67	16.12
	6H	14.19	14.50	15.29	15.59	17.05	13.85	14.15	14.95	15.25	16.71
	8H	14.41	14.68	15.52	15.77	17.27	14.07	14.33	15.17	15.43	16.93