

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: P910733

Luminaire Tested: DFN2DIP-HX3F0-040D040US850-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P910733
REPORT IS A COMBINATION OF REPORTS P900738 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-040D040US850-RLLONL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

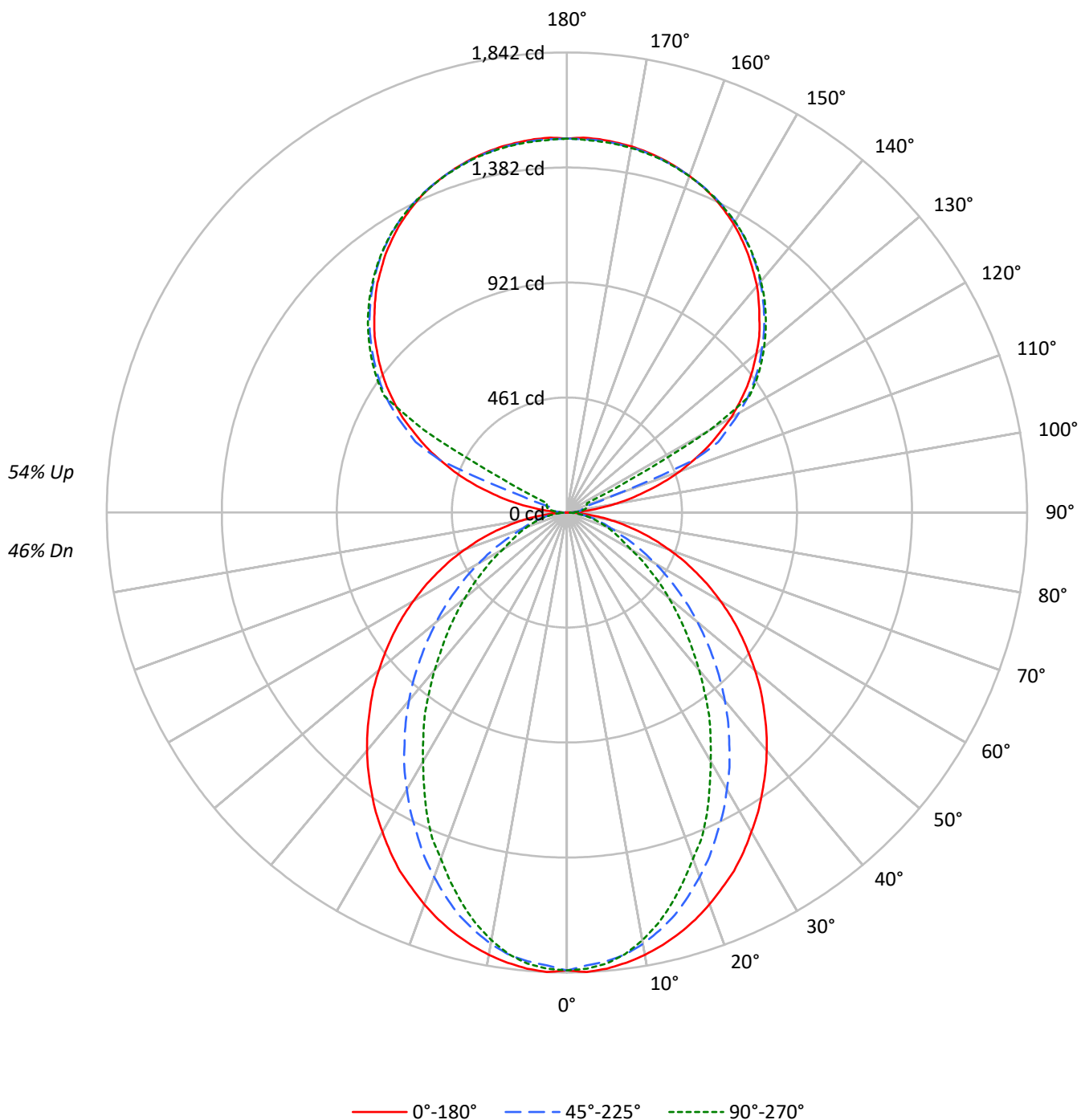
Lumens per Lamp: N/A
Luminaire Lumens: 8162.2 lumens
Efficiency: N/A
Efficacy: 127.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 64.2
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: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53	46		
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45	40		
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39	34		
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34	29		
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29	26		
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26	23		
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23	20		
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21	18		
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	16		
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17	15		
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15	13		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2124	2124	2124
5°	2126	2089	2102
10°	2104	2046	2033
15°	2074	1977	1926
20°	2035	1882	1795
25°	1995	1777	1669
30°	1941	1668	1509
35°	1888	1552	1369
40°	1835	1432	1209
45°	1772	1299	1063
50°	1708	1164	921
55°	1641	1021	785
60°	1562	871	645
65°	1473	720	579
70°	1364	578	522
75°	1226	506	473
80°	1028	420	406
85°	703	273	298

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1772 cd/sqm

TEST NUMBER: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	2.1
10°-20°	471.7	5.8
20°-30°	662.3	8.1
30°-40°	721.9	8.8
40°-50°	663.5	8.1
50°-60°	521.1	6.4
60°-70°	339.2	4.2
70°-80°	174.6	2.1
80°-90°	47.2	0.6
90°-100°	49.4	0.6
100°-110°	184.0	2.3
110°-120°	488.1	6.0
120°-130°	809.5	9.9
130°-140°	859.9	10.5
140°-150°	799.2	9.8
150°-160°	642.5	7.9
160°-170°	414.0	5.1
170°-180°	142.5	1.7
0°-30°	1305.8	16.0
0°-40°	2027.7	24.8
0°-60°	3212.2	39.4
0°-90°	3773.2	46.2
90°-120°	721.5	8.8
90°-150°	3190.0	39.1
90°-180°	4389.0	53.8
0°-180°	8162.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1825	1804	1818	1814	174
15°	1744	1726	1669	1638	1621	491
25°	1583	1530	1420	1352	1327	728
35°	1364	1279	1133	1029	992	854
45°	1115	1004	830	712	672	861
55°	848	718	539	440	408	758
65°	572	438	289	232	227	568
75°	305	189	133	121	120	323
85°	71	36	32	32	32	82
90°	1	13	22	27	29	8
95°	70	35	42	48	47	83
105°	329	362	66	78	82	352
115°	623	641	668	167	89	613
125°	881	895	915	923	926	785
135°	1090	1107	1117	1128	1126	842
145°	1264	1263	1281	1289	1284	791
155°	1392	1382	1395	1402	1393	641
165°	1467	1460	1464	1471	1464	414
175°	1500	1493	1495	1502	1492	143
180°	1497	1497	1497	1497	1497	

TEST NUMBER: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1833.4	1833.4	1833.4	1833.4	1833.4
2.5°	1841.7	1833.4	1815.1	1831.8	1828.4
5°	1833.4	1825.1	1803.5	1818.4	1813.5
7.5°	1818.4	1808.6	1785.4	1791.8	1783.6
10°	1798.6	1786.9	1753.8	1748.7	1738.9
12.5°	1773.7	1758.8	1713.8	1704.0	1685.7
15°	1743.8	1725.5	1669.2	1637.7	1621.1
17.5°	1709.0	1682.4	1612.6	1576.2	1549.6
20°	1669.2	1635.9	1552.9	1511.6	1475.0
22.5°	1626.0	1587.9	1491.5	1435.2	1410.4
25°	1582.9	1529.8	1420.2	1352.3	1327.3
27.5°	1531.5	1475.0	1353.9	1275.9	1237.6
30°	1476.7	1413.5	1280.8	1196.3	1151.5
32.5°	1423.6	1347.2	1211.2	1111.7	1070.1
35°	1364.0	1279.2	1133.3	1028.7	992.1
37.5°	1305.8	1214.5	1060.2	945.6	904.3
40°	1244.4	1144.9	983.9	866.1	823.0
42.5°	1181.3	1075.2	907.6	784.7	743.4
45°	1115.0	1003.8	829.6	711.8	671.9
47.5°	1052.0	934.2	755.0	637.1	600.6
50°	982.2	864.5	681.9	567.4	532.7
52.5°	914.1	789.7	612.3	502.7	471.2
55°	847.8	718.4	539.2	439.7	408.2
57.5°	779.8	647.1	474.5	381.6	355.1
60°	710.1	577.3	406.4	321.9	295.4
62.5°	642.2	509.5	348.3	268.8	255.6
65°	572.5	437.9	288.7	232.3	227.2
67.5°	506.1	371.6	232.3	204.1	199.1
70°	436.4	307.0	192.4	175.9	169.1
72.5°	370.1	247.2	160.9	147.7	144.4
75°	305.2	189.1	132.7	121.1	119.6
77.5°	240.7	134.3	104.6	97.9	94.5
80°	180.8	96.3	79.5	73.1	73.1
82.5°	126.1	64.8	54.8	51.3	51.3
85°	71.3	36.5	31.5	31.5	31.5
87.5°	26.6	13.2	13.2	11.6	11.6
90°	1.0	13.0	21.6	27.2	29.2
92.5°	27.2	22.7	26.0	28.2	29.2
95°	70.3	34.6	42.1	47.7	46.6
97.5°	126.8	37.9	55.2	58.6	59.6
100°	191.7	43.4	61.8	70.3	72.5
102.5°	263.2	261.2	63.9	75.7	79.1
105°	329.3	361.9	66.1	78.0	82.3
107.5°	406.2	433.3	68.3	80.2	84.5
110°	480.0	502.6	189.6	81.3	85.5

TEST NUMBER: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	549.3	568.7	550.3	83.4	86.7
115°	622.8	641.2	668.4	166.8	88.9
117.5°	686.8	708.4	726.9	571.9	288.1
120°	758.3	774.5	794.0	807.1	660.9
122.5°	818.9	836.3	858.0	864.5	865.6
125°	880.7	894.9	915.4	923.0	926.2
127.5°	937.0	952.2	968.5	979.4	980.4
130°	990.1	1007.5	1019.3	1031.3	1030.3
132.5°	1044.2	1058.4	1070.3	1080.1	1079.1
135°	1089.8	1107.2	1116.9	1127.7	1125.6
137.5°	1137.4	1150.4	1161.3	1172.1	1168.9
140°	1184.0	1192.7	1204.6	1214.4	1208.9
142.5°	1223.1	1230.7	1244.7	1253.3	1248.0
145°	1264.3	1263.2	1281.4	1289.1	1283.7
147.5°	1299.9	1296.6	1315.1	1320.5	1316.3
150°	1334.6	1327.0	1344.4	1350.9	1345.4
152.5°	1363.8	1355.2	1371.4	1377.9	1370.4
155°	1392.0	1382.4	1395.3	1401.8	1393.1
157.5°	1414.8	1406.1	1416.0	1423.5	1414.8
160°	1434.3	1427.7	1434.3	1440.7	1433.2
162.5°	1451.6	1445.1	1450.6	1458.1	1448.4
165°	1466.8	1460.3	1463.5	1471.1	1463.5
167.5°	1478.7	1472.1	1475.5	1483.1	1473.3
170°	1488.5	1482.0	1484.1	1491.7	1482.0
172.5°	1494.9	1488.5	1490.7	1498.3	1488.5
175°	1500.3	1492.7	1494.9	1502.5	1491.7
177.5°	1502.5	1494.9	1496.0	1503.7	1493.9
180°	1497.2	1497.2	1497.2	1497.2	1497.2

TEST NUMBER: P910733

CATALOG NUMBER: DFN2DIP-HX3F0-040D040US850-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	9.36	10.16	10.35	11.16	12.49	5.33	6.13	6.33	7.14	8.46
	3H	11.02	11.74	12.03	12.75	14.10	6.52	7.23	7.52	8.24	9.59
	4H	11.63	12.30	12.65	13.32	14.67	6.96	7.64	7.98	8.65	10.01
	6H	12.04	12.66	13.07	13.68	15.05	7.28	7.90	8.31	8.92	10.29
	8H	12.16	12.75	13.20	13.79	15.15	7.36	7.96	8.40	8.99	10.36
	12H	12.22	12.78	13.26	13.81	15.20	7.40	7.97	8.44	9.00	10.38
4H	2H	9.37	10.05	10.40	11.06	12.42	5.92	6.60	6.95	7.61	8.97
	3H	11.19	11.75	12.22	12.79	14.16	7.26	7.83	8.30	8.87	10.24
	4H	11.87	12.39	12.91	13.42	14.81	7.81	8.32	8.85	9.36	10.75
	6H	12.38	12.82	13.43	13.88	15.27	8.22	8.66	9.27	9.72	11.11
	8H	12.55	12.96	13.60	14.01	15.42	8.34	8.76	9.40	9.81	11.21
	12H	12.64	13.01	13.71	14.08	15.48	8.41	8.78	9.47	9.84	11.25
8H	4H	11.84	12.25	12.89	13.30	14.70	8.08	8.49	9.13	9.54	10.95
	6H	12.39	12.73	13.47	13.83	15.23	8.59	8.93	9.66	10.02	11.42
	8H	12.61	12.90	13.69	13.98	15.40	8.78	9.08	9.86	10.15	11.57
	12H	12.74	13.00	13.82	14.07	15.53	8.89	9.15	9.98	10.23	11.69
12H	4H	11.79	12.16	12.86	13.23	14.63	8.08	8.45	9.15	9.52	10.93
	6H	12.37	12.67	13.45	13.75	15.16	8.64	8.94	9.72	10.01	11.43
	8H	12.58	12.85	13.67	13.92	15.38	8.84	9.10	9.93	10.18	11.64