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: P910648

Luminaire Tested: DFN2DIP-HX2F0-040D030US850-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method:	LM-79-2019
Report Number:	P910648
	REPORT IS A COMBINATION OF REPORTS P899166 AND P896039
Test Lab:	INNOVATION CENTER
Issue Date:	11/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	NEO-RAY
Catalog Number:	DFN2DIP-HX2F0-040D030US850-RLLFLL
Description:	2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source:	-
Ballast/Driver:	-

Summary

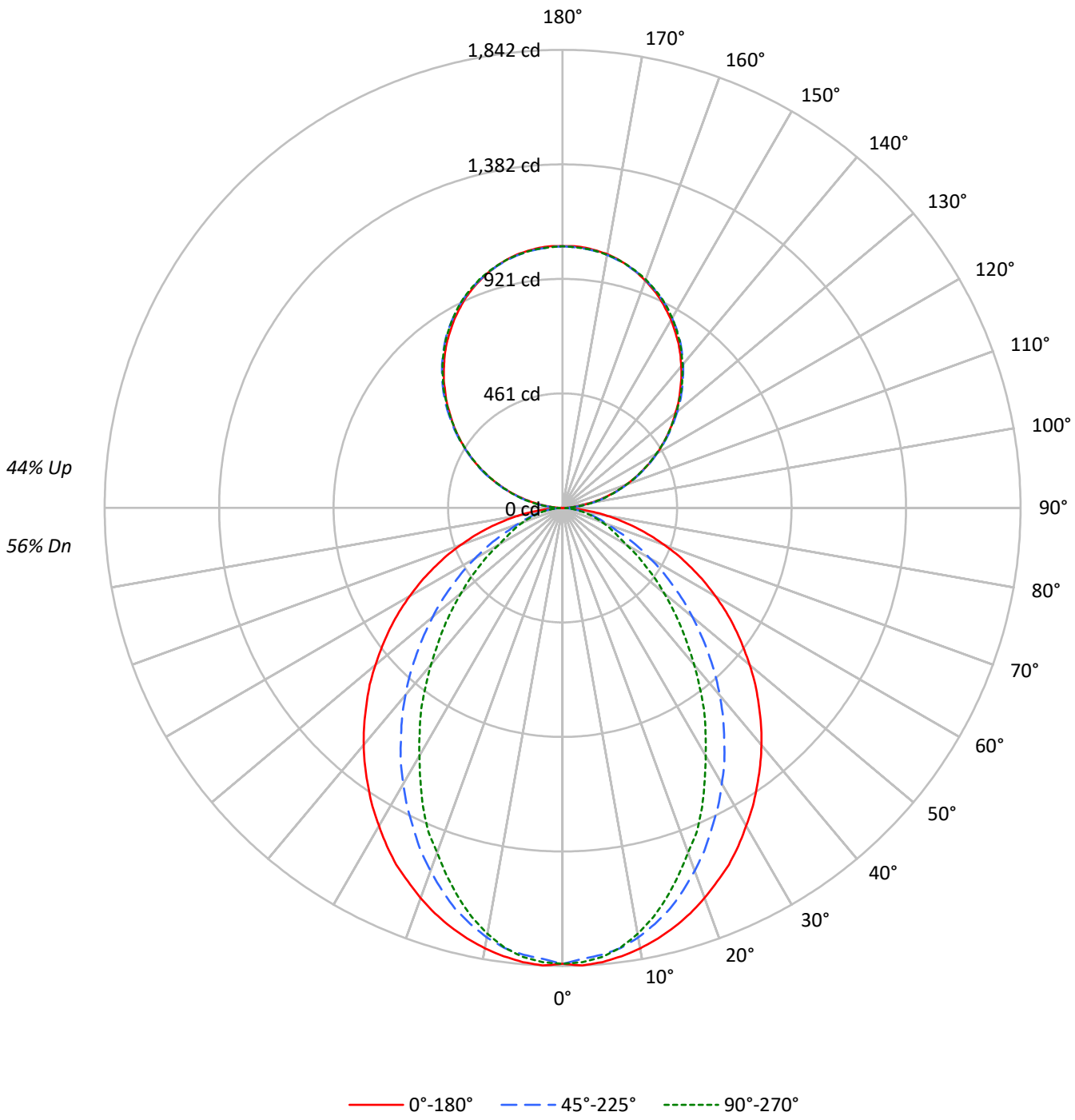
Lumens per Lamp:	N/A
Luminaire Lumens:	6714.9 lumens
Efficiency:	N/A
Efficacy:	116.2 lumens/watt
Spacing Criteria (0/90/45):	1.2 / 0.99 / 1.16
Luminous Opening:	Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type:	General Diffuse
Input Watts (W):	57.8
Input Voltage (V):	
Input Current (Ain):	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

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

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	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	55	54	53	48
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	49	47	46	41
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	30	27
6	65	53	46	40	61	50	43	38	44	38	34	38	34	31	33	30	27	24
7	61	48	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24	22
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4320	4320	4320
5°	4320	4241	4270
10°	4270	4147	4124
15°	4205	4000	3902
20°	4120	3802	3632
25°	4033	3581	3372
30°	3919	3356	3044
35°	3807	3115	2757
40°	3693	2867	2429
45°	3560	2592	2132
50°	3423	2316	1842
55°	3279	2023	1564
60°	3112	1718	1281
65°	2919	1409	1143
70°	2685	1121	1024
75°	2390	968	917
80°	1967	784	772
85°	1287	484	541

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3560 cd/sqm

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.8	2.6
10°-20°	471.7	7.0
20°-30°	662.3	9.9
30°-40°	721.9	10.8
40°-50°	663.5	9.9
50°-60°	521.1	7.8
60°-70°	339.2	5.1
70°-80°	174.6	2.6
80°-90°	47.6	0.7
90°-100°	65.1	1.0
100°-110°	206.9	3.1
110°-120°	354.0	5.3
120°-130°	465.6	6.9
130°-140°	522.6	7.8
140°-150°	512.5	7.6
150°-160°	429.9	6.4
160°-170°	285.1	4.2
170°-180°	99.7	1.5
0°-30°	1305.8	19.4
0°-40°	2027.7	30.2
0°-60°	3212.2	47.8
0°-90°	3773.6	56.2
90°-120°	626.0	9.3
90°-150°	2126.7	31.7
90°-180°	2941.0	43.8
0°-180°	6714.9	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	11	31	29	30	7
95°	46	55	57	57	55	52
105°	191	194	195	197	197	202
115°	355	360	359	358	355	351
125°	517	525	522	519	518	462
135°	668	678	680	679	677	517
145°	812	818	823	824	820	507
155°	928	930	933	938	935	427
165°	1009	1008	1008	1015	1010	285
175°	1050	1048	1046	1052	1047	100
180°	1052	1052	1052	1052	1052	

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

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*	11.4	31.1	29.2	30.2
92.5°	*19.6*	26.6	27.6	28.5	28.5
95°	*46.4*	55.2	56.8	56.8	55.2
97.5°	*77.1*	85.3	88.8	88.8	88.8
100°	*112.6*	119.9	122.4	122.4	121.5
102.5°	*150.0*	155.5	158.9	159.9	158.9
105°	*191.0*	193.5	195.4	197.0	197.0
107.5°	*231.6*	235.3	235.3	236.0	231.6
110°	*270.9*	276.0	276.0	276.0	273.5

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*313.4*	318.8	317.8	315.3	313.4
115°	*355.3*	360.3	358.8	357.9	355.3
117.5°	*396.8*	403.8	399.4	396.8	394.2
120°	*438.7*	445.7	438.7	438.7	435.8
122.5°	*476.8*	485.6	481.2	478.6	476.8
125°	*516.8*	524.7	522.1	519.2	518.3
127.5°	*555.7*	565.6	562.2	558.3	555.7
130°	*592.2*	603.6	602.1	600.2	596.6
132.5°	*633.1*	642.0	642.7	638.2	635.7
135°	*668.4*	678.2	680.1	679.2	676.6
137.5°	*707.7*	715.6	717.2	716.6	712.8
140°	*742.3*	750.2	754.7	754.7	751.1
142.5°	*777.9*	785.7	788.3	789.3	785.7
145°	*811.5*	817.8	822.9	823.8	820.3
147.5°	*841.6*	849.5	853.3	854.9	851.4
150°	*872.7*	878.1	881.5	884.4	881.5
152.5°	*900.3*	905.6	910.0	913.6	910.0
155°	*927.9*	930.3	933.2	937.7	934.9
157.5°	*951.6*	953.5	955.2	961.5	957.1
160°	*972.9*	974.8	975.8	981.1	977.4
162.5°	*992.6*	992.6	993.6	999.5	995.1
165°	*1009.4*	1008.4	1008.4	1014.7	1010.3
167.5°	*1024.6*	1021.7	1021.7	1028.0	1023.6
170°	*1036.0*	1033.5	1032.6	1038.9	1033.5
172.5°	*1043.9*	1041.5	1040.5	1046.8	1041.5
175°	*1050.3*	1047.8	1045.9	1052.2	1046.8
177.5°	*1053.8*	1051.2	1049.3	1054.8	1049.3
180°	*1052.2*	1052.2	1052.2	1052.2	1052.2

TEST NUMBER: P910648
CATALOG NUMBER: DFN2DIP-HX2F0-040D030US850-RLLFLL

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	12.65	13.54	13.56	14.46	15.64	8.63	9.52	9.54	10.44	11.62
	3H	14.31	15.10	15.23	16.03	17.24	9.81	10.60	10.73	11.53	12.74
	4H	14.90	15.65	15.84	16.59	17.80	10.25	11.00	11.19	11.94	13.15
	6H	15.31	15.99	16.25	16.94	18.17	10.56	11.25	11.51	12.19	13.42
	8H	15.42	16.08	16.38	17.04	18.27	10.65	11.30	11.60	12.26	13.49
	12H	15.48	16.10	16.44	17.05	18.31	10.68	11.30	11.64	12.26	13.51
4H	2H	12.67	13.42	13.61	14.36	15.57	9.22	9.97	10.16	10.91	12.12
	3H	14.48	15.10	15.43	16.07	17.30	10.56	11.18	11.51	12.15	13.38
	4H	15.15	15.72	16.11	16.68	17.94	11.09	11.66	12.05	12.62	13.88
	6H	15.65	16.13	16.62	17.12	18.38	11.50	11.98	12.47	12.97	14.23
	8H	15.81	16.26	16.79	17.24	18.51	11.62	12.07	12.59	13.05	14.32
	12H	15.89	16.30	16.89	17.30	18.57	11.68	12.08	12.67	13.08	14.35
8H	4H	15.12	15.58	16.10	16.55	17.82	11.36	11.82	12.34	12.80	14.07
	6H	15.66	16.04	16.66	17.06	18.33	11.86	12.24	12.86	13.26	14.52
	8H	15.86	16.19	16.87	17.20	18.49	12.04	12.37	13.05	13.38	14.66
	12H	15.99	16.28	17.00	17.28	18.61	12.14	12.44	13.16	13.44	14.77
12H	4H	15.07	15.48	16.07	16.48	17.75	11.37	11.78	12.36	12.77	14.05
	6H	15.64	15.97	16.64	16.98	18.26	11.90	12.23	12.91	13.24	14.53
	8H	15.84	16.13	16.85	17.14	18.47	12.10	12.39	13.11	13.39	14.73

END OF REPORT