

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: P927262

Luminaire Tested: DFN2DIP-HX4F0-050D110US835-RLLONL

Issue Date: 12/12/2024

Test Information

Test Method: LM-79-2019
Report Number: P927262
REPORT IS A COMBINATION OF REPORTS P900948 AND P896187
Test Lab: INNOVATION CENTER
Issue Date: 12/12/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX4F0-050D110US835-RLLONL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

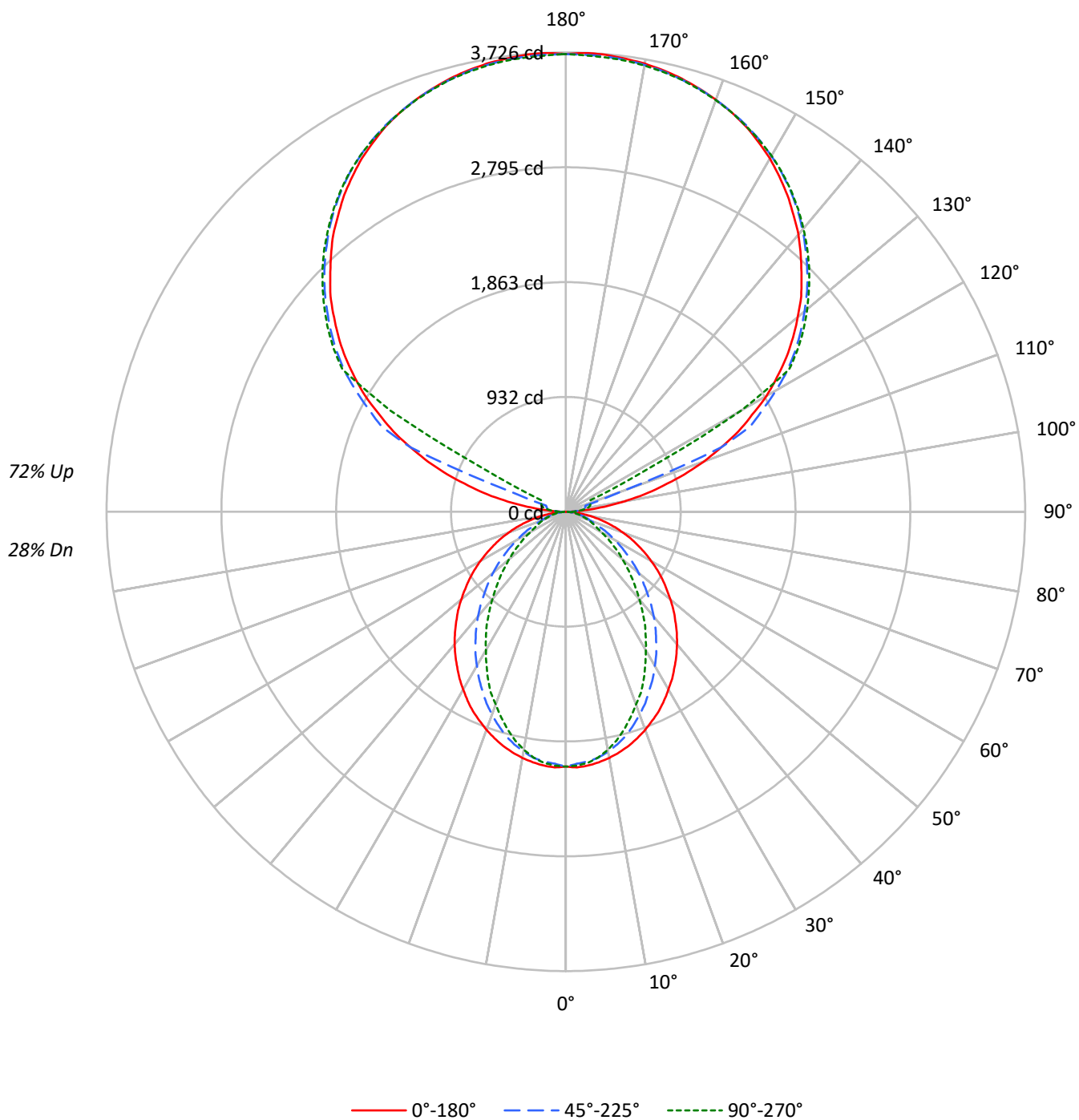
Lumens per Lamp: N/A
Luminaire Lumens: 15140.0 lumens
Efficiency: N/A
Efficacy: 115.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.54' x L: 4.09' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 130.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36
1	93	89	85	82	83	80	77	74	63	61	59	47	46	44	32	32	31
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	27	26
3	78	69	62	56	69	62	56	51	49	45	41	37	34	32	26	24	23
4	71	61	53	48	63	55	49	44	43	39	35	33	30	28	23	21	20
5	65	54	47	41	58	49	42	37	39	34	31	30	26	24	21	19	17
6	60	49	41	35	54	44	37	33	35	30	27	27	24	21	19	17	15
7	55	44	36	31	50	40	33	28	32	27	24	24	21	19	17	15	14
8	51	40	32	27	46	36	30	25	29	24	21	22	19	17	16	14	12
9	48	36	29	24	43	33	27	22	26	22	19	20	17	15	15	13	11
10	45	33	26	22	40	30	24	20	24	20	17	19	16	13	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1537	1537	1537
5°	1539	1512	1522
10°	1524	1483	1472
15°	1503	1434	1396
20°	1476	1367	1302
25°	1447	1291	1211
30°	1409	1213	1096
35°	1372	1130	995
40°	1334	1044	880
45°	1290	948	774
50°	1245	851	672
55°	1197	748	573
60°	1142	640	472
65°	1079	530	425
70°	1002	428	385
75°	906	377	350
80°	766	317	304
85°	536	212	229

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1906 cd/sqm

TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	1.3
10°-20°	531.7	3.5
20°-30°	746.5	4.9
30°-40°	813.7	5.4
40°-50°	747.9	4.9
50°-60°	587.3	3.9
60°-70°	382.3	2.5
70°-80°	196.8	1.3
80°-90°	56.8	0.4
90°-100°	122.4	0.8
100°-110°	456.3	3.0
110°-120°	1210.3	8.0
120°-130°	2007.3	13.3
130°-140°	2132.2	14.1
140°-150°	1981.7	13.1
150°-160°	1593.2	10.5
160°-170°	1026.6	6.8
170°-180°	353.3	2.3
0°-30°	1471.8	9.7
0°-40°	2285.5	15.1
0°-60°	3620.7	23.9
0°-90°	4256.6	28.1
90°-120°	1789.0	11.8
90°-150°	7910.3	52.2
90°-180°	10883.0	71.9
0°-180°	15140.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	3	32	54	67	72	14
95°	174	86	105	118	116	207
105°	817	897	164	193	204	873
115°	1544	1590	1658	414	220	1521
125°	2184	2219	2270	2289	2297	1948
135°	2702	2746	2769	2797	2791	2088
145°	3135	3132	3178	3197	3183	1961
155°	3452	3428	3460	3476	3455	1591
165°	3637	3621	3629	3648	3629	1028
175°	3720	3702	3707	3726	3699	354
180°	3712	3712	3712	3712	3712	

TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	2.6	32.2	53.6	67.3	72.4
92.5°	67.3	56.5	64.4	69.9	72.4
95°	174.5	85.8	104.6	118.3	115.5
97.5°	314.2	94.1	136.8	145.1	147.7
100°	475.6	107.5	153.1	174.5	179.9
102.5°	652.6	647.5	158.5	187.9	196.2
105°	816.6	897.3	164.0	193.3	204.2
107.5°	1007.4	1074.3	169.4	198.7	209.6
110°	1190.1	1246.3	470.2	201.6	212.1

TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1362.1	1410.2	1364.6	206.7	215.0
115°	1544.5	1590.1	1657.5	413.7	220.4
117.5°	1703.1	1756.7	1802.6	1418.2	714.5
120°	1880.4	1920.6	1969.1	2001.3	1638.6
122.5°	2030.7	2073.7	2127.6	2143.6	2146.5
125°	2183.8	2218.9	2269.9	2288.7	2296.7
127.5°	2323.5	2361.1	2401.6	2428.4	2431.0
130°	2455.2	2498.3	2527.6	2557.3	2554.8
132.5°	2589.5	2624.6	2654.0	2678.2	2675.7
135°	2702.5	2745.5	2769.4	2796.6	2791.1
137.5°	2820.5	2852.7	2879.8	2906.6	2898.6
140°	2936.0	2957.6	2987.0	3011.2	2997.8
142.5°	3032.9	3051.7	3086.5	3107.9	3094.5
145°	3135.0	3132.1	3177.7	3196.6	3183.2
147.5°	3223.4	3215.4	3261.0	3274.4	3263.9
150°	3309.5	3290.7	3333.7	3349.7	3336.3
152.5°	3381.9	3360.5	3400.7	3417.0	3398.2
155°	3451.8	3427.8	3460.0	3476.0	3454.6
157.5°	3508.2	3486.8	3511.1	3529.9	3508.2
160°	3556.7	3540.4	3556.7	3572.6	3553.8
162.5°	3599.4	3583.5	3596.9	3615.7	3591.5
165°	3637.1	3621.1	3629.1	3647.9	3629.1
167.5°	3666.7	3650.5	3658.8	3677.6	3653.4
170°	3691.0	3674.7	3680.1	3699.0	3674.7
172.5°	3706.9	3691.0	3696.4	3715.2	3691.0
175°	3720.3	3701.5	3706.9	3725.8	3699.0
177.5°	3725.8	3706.9	3709.8	3728.6	3704.4
180°	3712.4	3712.4	3712.4	3712.4	3712.4

TEST NUMBER: P927262

CATALOG NUMBER: DFN2DIP-HX4F0-050D110US835-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	6.14	6.82	7.27	7.94	9.49	2.12	2.80	3.25	3.91	5.47
	3H	7.81	8.42	8.95	9.54	11.11	3.29	3.90	4.43	5.03	6.60
	4H	8.41	8.99	9.56	10.11	11.69	3.74	4.32	4.89	5.44	7.02
	6H	8.83	9.36	9.98	10.49	12.07	4.05	4.58	5.21	5.71	7.30
	8H	8.95	9.45	10.11	10.60	12.18	4.14	4.64	5.30	5.79	7.37
	12H	9.01	9.48	10.17	10.62	12.22	4.18	4.66	5.34	5.80	7.40
4H	2H	6.14	6.72	7.30	7.85	9.42	2.69	3.27	3.85	4.40	5.97
	3H	7.96	8.44	9.12	9.59	11.18	4.03	4.51	5.19	5.66	7.25
	4H	8.65	9.09	9.81	10.23	11.84	4.57	5.02	5.74	6.16	7.76
	6H	9.15	9.53	10.32	10.70	12.29	4.99	5.36	6.15	6.53	8.13
	8H	9.33	9.68	10.49	10.83	12.45	5.11	5.47	6.28	6.62	8.24
	12H	9.42	9.73	10.60	10.90	12.52	5.17	5.49	6.35	6.66	8.28
8H	4H	8.60	8.95	9.77	10.11	11.72	4.84	5.20	6.01	6.35	7.97
	6H	9.16	9.45	10.35	10.65	12.26	5.36	5.65	6.54	6.85	8.46
	8H	9.38	9.63	10.57	10.81	12.44	5.55	5.80	6.74	6.98	8.61
	12H	9.51	9.74	10.71	10.91	12.57	5.66	5.89	6.86	7.06	8.72
12H	4H	8.55	8.87	9.73	10.03	11.65	4.84	5.16	6.02	6.33	7.95
	6H	9.14	9.39	10.33	10.57	12.20	5.41	5.66	6.60	6.84	8.47
	8H	9.35	9.58	10.55	10.75	12.41	5.61	5.84	6.81	7.01	8.67

END OF REPORT