

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: P916122

Luminaire Tested: DFN2DIP-HX2F0-050D030US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916122
REPORT IS A COMBINATION OF REPORTS P899167 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-050D030US930-FLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

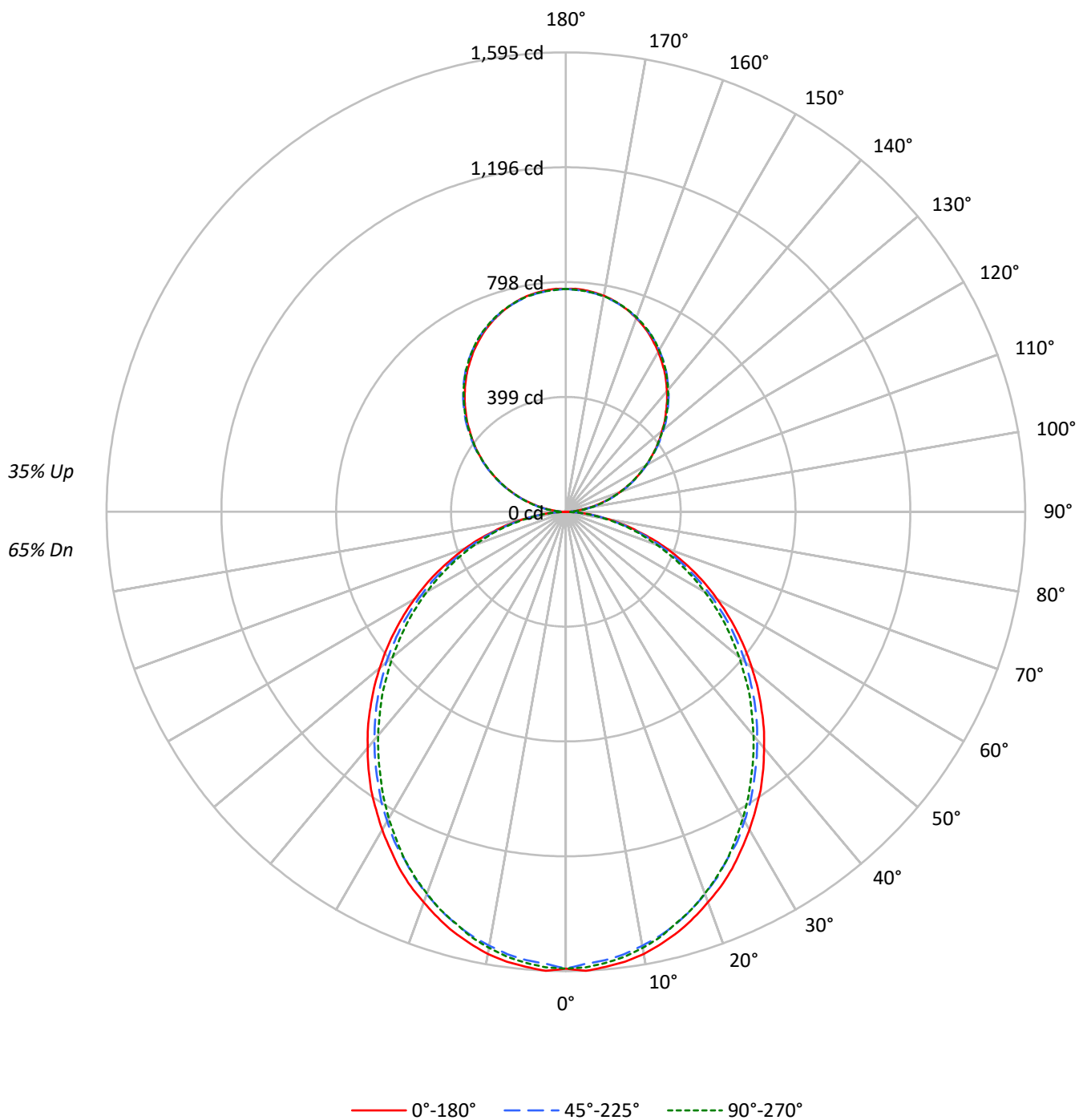
Lumens per Lamp: N/A
Luminaire Lumens: 6200.3 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 69.3
Input Voltage (V): 120
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

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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
RCR																	
0	111	111	111	111	104	104	104	104	92	92	92		80	80	80		70
1	101	97	93	89	95	91	88	84	81	78	75		71	69	67		62
2	92	85	78	73	86	80	74	69	71	66	63		62	59	56		55
3	84	74	67	61	79	70	63	58	62	57	53		55	51	47		48
4	77	66	58	52	72	62	55	49	55	50	45		49	44	41		43
5	71	59	50	44	66	56	48	42	50	44	39		44	39	35		39
6	65	53	45	39	61	50	43	37	45	39	34		40	35	31		35
7	60	48	40	34	57	45	38	33	41	35	30		36	31	28		32
8	56	44	36	30	53	41	34	29	37	31	27		33	28	25		30
9	52	40	32	27	49	38	31	26	34	28	24		31	26	22		27
10	49	37	29	24	46	35	28	23	32	26	22		28	24	20		25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3737	3737	3737
5°	3737	3676	3703
10°	3701	3618	3646
15°	3641	3549	3561
20°	3561	3458	3474
25°	3482	3350	3375
30°	3384	3249	3250
35°	3291	3132	3119
40°	3177	3013	2993
45°	3063	2893	2865
50°	2939	2767	2717
55°	2808	2621	2578
60°	2660	2450	2420
65°	2497	2271	2233
70°	2290	2053	2032
75°	2006	1791	1836
80°	1661	1458	1481
85°	1128	915	917

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3063 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.3	2.4
10°-20°	420.0	6.8
20°-30°	617.3	10.0
30°-40°	717.0	11.6
40°-50°	716.1	11.5
50°-60°	624.4	10.1
60°-70°	461.6	7.4
70°-80°	261.1	4.2
80°-90°	71.1	1.1
90°-100°	47.9	0.8
100°-110°	152.1	2.5
110°-120°	260.3	4.2
120°-130°	342.3	5.5
130°-140°	384.2	6.2
140°-150°	376.8	6.1
150°-160°	316.1	5.1
160°-170°	209.6	3.4
170°-180°	73.3	1.2
0°-30°	1186.6	19.1
0°-40°	1903.6	30.7
0°-60°	3244.1	52.3
0°-90°	4037.9	65.1
90°-120°	460.2	7.4
90°-150°	1563.5	25.2
90°-180°	2162.0	34.9
0°-180°	6200.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1586	1586	1586	1586	1586	
5°	1586	1580	1563	1576	1573	151
15°	1510	1501	1481	1487	1480	425
25°	1367	1354	1328	1332	1328	629
35°	1179	1164	1139	1130	1123	736
45°	959	949	926	909	903	740
55°	726	717	698	680	673	649
65°	490	480	465	452	444	484
75°	256	253	246	236	240	273
85°	62	61	60	55	53	70
90°	1	8	23	21	22	6
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1586.2	1586.2	1586.2	1586.2	1586.2
2.5°	1595.4	1587.8	1571.0	1586.2	1583.3
5°	1586.2	1580.2	1563.3	1575.5	1572.6
7.5°	1575.5	1566.4	1549.6	1561.9	1558.9
10°	1558.9	1548.2	1529.9	1542.0	1537.5
12.5°	1535.9	1526.8	1508.5	1516.1	1513.0
15°	1509.9	1500.9	1481.0	1487.2	1479.5
17.5°	1477.9	1468.8	1448.9	1456.5	1448.9
20°	1442.8	1433.8	1412.4	1416.9	1411.0
22.5°	1407.9	1394.1	1374.2	1374.2	1371.1
25°	1366.6	1354.5	1328.5	1331.5	1328.5
27.5°	1320.8	1310.1	1290.4	1285.8	1278.2
30°	1275.1	1262.9	1240.1	1235.5	1229.4
32.5°	1226.3	1217.2	1192.8	1183.6	1177.5
35°	1179.0	1163.8	1139.4	1130.2	1122.6
37.5°	1125.6	1111.9	1087.4	1076.8	1069.2
40°	1070.8	1058.5	1034.0	1020.4	1014.3
42.5°	1017.4	1005.1	980.8	965.4	956.3
45°	959.4	948.8	925.8	909.1	902.9
47.5°	902.9	892.3	867.9	851.0	842.0
50°	843.4	835.8	814.5	793.1	785.5
52.5°	785.5	774.8	755.0	738.3	727.6
55°	726.1	716.9	698.5	680.3	672.7
57.5°	666.5	658.9	639.0	620.8	614.6
60°	607.0	601.0	579.7	562.8	558.3
62.5°	549.1	538.4	523.2	507.9	501.8
65°	489.7	480.5	465.2	451.5	443.8
67.5°	428.7	420.9	407.3	396.6	390.4
70°	372.2	366.1	352.3	341.6	335.7
72.5°	314.3	308.1	300.5	289.8	285.3
75°	256.2	253.2	245.5	236.4	239.5
77.5°	204.4	198.2	195.2	190.6	186.1
80°	152.6	151.0	147.9	143.4	140.3
82.5°	103.7	103.7	102.2	96.1	96.1
85°	62.5	61.0	59.5	54.9	53.4
87.5°	27.5	24.5	21.4	16.8	15.2
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6

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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	13.00	14.02	13.82	14.86	15.90	12.58	13.60	13.40	14.44	15.47
	3H	14.65	15.56	15.48	16.41	17.48	14.19	15.10	15.02	15.95	17.02
	4H	15.23	16.09	16.07	16.95	18.02	14.77	15.63	15.62	16.49	17.56
	6H	15.62	16.41	16.47	17.28	18.36	15.16	15.95	16.02	16.82	17.91
	8H	15.72	16.47	16.58	17.36	18.44	15.26	16.02	16.13	16.90	17.99
	12H	15.76	16.48	16.63	17.36	18.47	15.30	16.02	16.17	16.90	18.01
4H	2H	13.47	14.34	14.32	15.19	16.27	13.14	14.00	13.99	14.85	15.93
	3H	15.33	16.04	16.19	16.93	18.02	14.94	15.66	15.80	16.55	17.64
	4H	16.03	16.68	16.90	17.57	18.68	15.63	16.29	16.51	17.17	18.29
	6H	16.53	17.09	17.42	18.00	19.12	16.13	16.70	17.02	17.61	18.73
	8H	16.67	17.20	17.56	18.10	19.24	16.27	16.80	17.16	17.70	18.84
	12H	16.74	17.21	17.65	18.14	19.28	16.33	16.81	17.24	17.73	18.87
8H	4H	16.22	16.75	17.12	17.66	18.79	15.87	16.40	16.76	17.31	18.44
	6H	16.83	17.27	17.75	18.22	19.35	16.48	16.92	17.40	17.86	19.00
	8H	17.04	17.43	17.97	18.36	19.52	16.68	17.07	17.61	18.01	19.16
	12H	17.16	17.50	18.09	18.43	19.64	16.79	17.13	17.72	18.06	19.27
12H	4H	16.21	16.69	17.13	17.61	18.75	15.87	16.35	16.78	17.27	18.41
	6H	16.86	17.25	17.79	18.19	19.34	16.52	16.91	17.45	17.84	19.00
	8H	17.09	17.43	18.02	18.36	19.56	16.74	17.09	17.68	18.02	19.22