

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: P905343

Luminaire Tested: DFN2DIP-HX3F0-070D030US835-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905343
REPORT IS A COMBINATION OF REPORTS P900729 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-070D030US835-FLLONL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

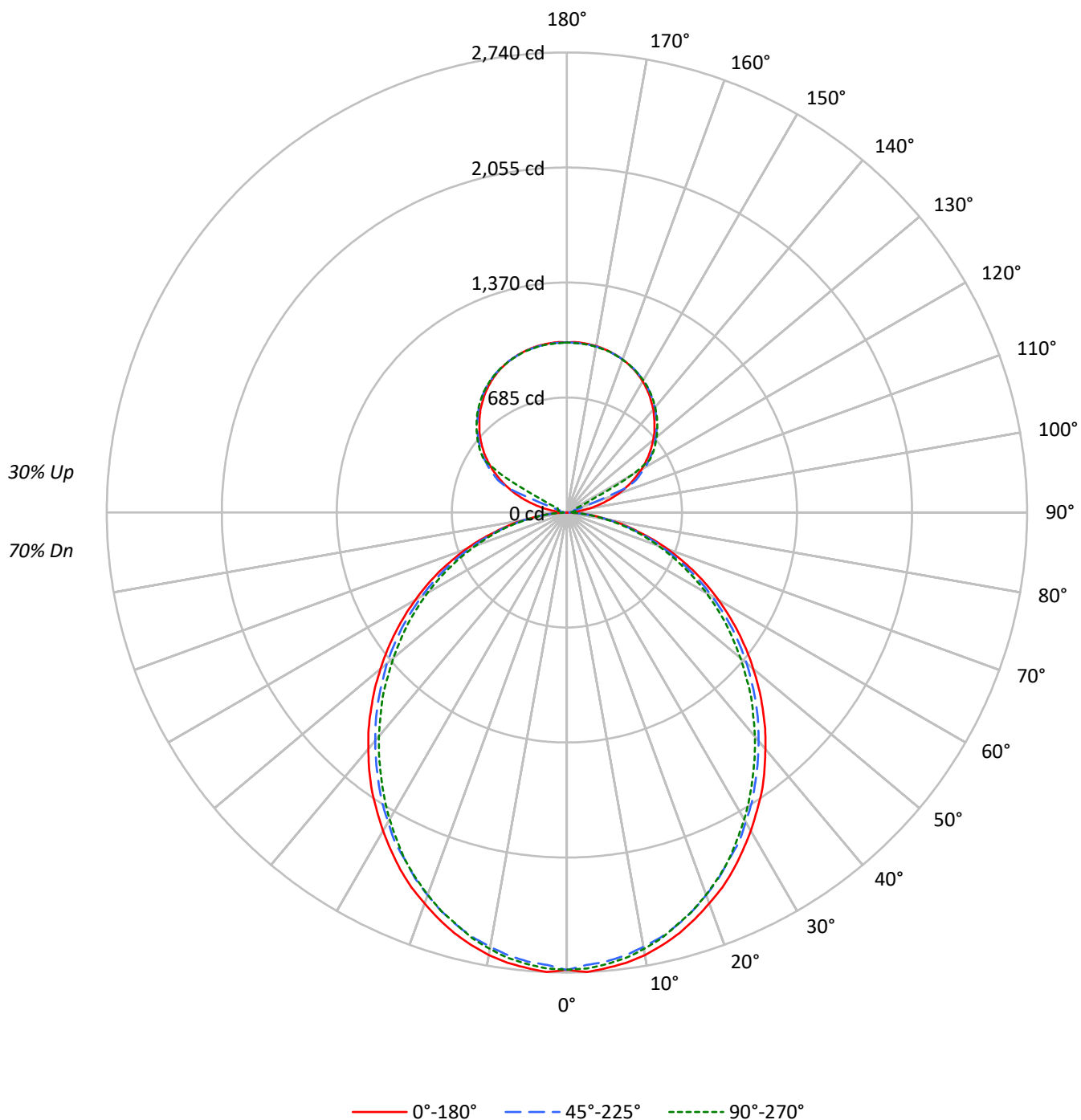
Lumens per Lamp: N/A
Luminaire Lumens: 9900.0 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 92.1
Input Voltage (V):
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

TEST NUMBER: P905343

CATALOG NUMBER: DFN2DIP-HX3F0-070D030US835-FLLONL

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	30	10
RCR																	
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	75	75	75
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53
3	85	75	68	62	80	71	65	59	64	59	54	58	53	50	51	48	45
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39
5	72	60	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	33	30
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24
9	53	40	33	27	50	39	32	27	35	29	25	32	27	23	29	25	22
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3155	3155	3155
5°	3159	3109	3130
10°	3132	3065	3086
15°	3084	3012	3018
20°	3020	2940	2949
25°	2957	2854	2869
30°	2878	2774	2767
35°	2803	2679	2660
40°	2711	2584	2558
45°	2619	2488	2453
50°	2518	2388	2333
55°	2413	2272	2221
60°	2293	2134	2093
65°	2163	1991	1942
70°	1997	1817	1779
75°	1767	1607	1627
80°	1490	1341	1339
85°	1057	888	869

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2619 cd/sqm

TEST NUMBER: P905343

CATALOG NUMBER: DFN2DIP-HX3F0-070D030US835-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.4	2.6
10°-20°	721.3	7.3
20°-30°	1060.0	10.7
30°-40°	1231.1	12.4
40°-50°	1229.6	12.4
50°-60°	1072.2	10.8
60°-70°	792.6	8.0
70°-80°	448.4	4.5
80°-90°	120.2	1.2
90°-100°	33.4	0.3
100°-110°	124.4	1.3
110°-120°	330.1	3.3
120°-130°	547.5	5.5
130°-140°	581.5	5.9
140°-150°	540.5	5.5
150°-160°	434.5	4.4
160°-170°	280.0	2.8
170°-180°	96.4	1.0
0°-30°	2037.7	20.6
0°-40°	3268.8	33.0
0°-60°	5570.6	56.3
0°-90°	6931.8	70.0
90°-120°	487.9	4.9
90°-150°	2157.3	21.8
90°-180°	2968.0	30.0
0°-180°	9900.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2724	2724	2724	2724	2724	
5°	2724	2714	2685	2705	2700	259
15°	2593	2577	2543	2554	2541	730
25°	2347	2326	2281	2286	2281	1080
35°	2025	1998	1956	1941	1928	1264
45°	1648	1629	1590	1561	1550	1271
55°	1247	1231	1200	1168	1155	1115
65°	841	825	799	775	762	831
75°	440	435	422	406	411	470
85°	107	105	102	94	92	120
90°	1	9	15	18	20	9
95°	48	23	28	32	32	56
105°	223	245	45	53	56	238
115°	421	434	452	113	60	415
125°	596	605	619	624	626	531
135°	737	749	755	763	761	569
145°	855	854	867	872	868	535
155°	941	935	944	948	942	434
165°	992	988	990	995	990	280
175°	1015	1010	1011	1016	1009	97
180°	1012	1012	1012	1012	1012	

TEST NUMBER: P905343

CATALOG NUMBER: DFN2DIP-HX3F0-070D030US835-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2723.7	2723.7	2723.7	2723.7	2723.7
2.5°	2739.6	2726.5	2697.6	2723.7	2718.7
5°	2723.7	2713.5	2684.6	2705.4	2700.4
7.5°	2705.4	2689.8	2660.9	2682.1	2676.8
10°	2676.8	2658.4	2627.0	2647.9	2640.1
12.5°	2637.3	2621.8	2590.4	2603.4	2598.1
15°	2592.9	2577.3	2543.1	2553.7	2540.6
17.5°	2537.8	2522.3	2488.1	2501.2	2488.1
20°	2477.5	2462.0	2425.3	2433.1	2422.8
22.5°	2417.5	2393.9	2359.7	2359.7	2354.4
25°	2346.7	2325.8	2281.4	2286.4	2281.4
27.5°	2268.0	2249.7	2215.8	2208.0	2194.9
30°	2189.7	2168.5	2129.4	2121.6	2111.0
32.5°	2105.7	2090.2	2048.2	2032.4	2021.8
35°	2024.6	1998.5	1956.5	1940.7	1927.6
37.5°	1932.9	1909.3	1867.3	1849.0	1835.9
40°	1838.7	1817.6	1775.6	1752.3	1741.7
42.5°	1747.0	1725.9	1684.2	1657.8	1642.2
45°	1647.5	1629.2	1589.7	1561.1	1550.5
47.5°	1550.5	1532.2	1490.2	1461.3	1445.8
50°	1448.3	1435.2	1398.5	1361.9	1348.8
52.5°	1348.8	1330.5	1296.6	1267.7	1249.3
55°	1246.8	1231.0	1199.6	1168.2	1155.1
57.5°	1144.6	1131.5	1097.3	1065.9	1055.4
60°	1042.3	1032.0	995.4	966.5	958.7
62.5°	942.8	924.5	898.4	872.3	861.7
65°	840.9	825.0	798.9	775.3	762.2
67.5°	736.1	722.8	699.4	681.1	670.5
70°	639.1	628.6	604.9	586.6	576.3
72.5°	539.6	529.1	516.0	497.7	489.9
75°	439.9	434.9	421.5	406.0	411.3
77.5°	351.0	340.4	335.1	327.3	319.6
80°	262.0	259.3	254.0	246.2	240.9
82.5°	178.1	178.1	175.6	165.1	165.1
85°	107.3	104.8	102.3	94.2	91.7
87.5°	47.2	42.0	36.7	28.9	26.1
90°	0.7	8.8	14.6	18.4	19.7
92.5°	18.4	15.4	17.6	19.1	19.7
95°	47.6	23.4	28.5	32.3	31.5
97.5°	85.7	25.7	37.3	39.6	40.3
100°	129.7	29.3	41.8	47.6	49.1
102.5°	178.0	176.6	43.2	51.2	53.5
105°	222.7	244.7	44.7	52.7	55.7
107.5°	274.7	293.0	46.2	54.2	57.2
110°	324.6	339.9	128.2	55.0	57.9

TEST NUMBER: P905343

CATALOG NUMBER: DFN2DIP-HX3F0-070D030US835-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	371.5	384.6	372.2	56.4	58.6
115°	421.2	433.7	452.0	112.8	60.1
117.5°	464.5	479.1	491.6	386.8	194.9
120°	512.8	523.8	537.0	545.8	446.9
122.5°	553.8	565.6	580.3	584.6	585.4
125°	595.6	605.1	619.1	624.2	626.4
127.5°	633.7	643.9	655.0	662.3	663.0
130°	669.6	681.4	689.4	697.4	696.8
132.5°	706.2	715.8	723.8	730.4	729.7
135°	737.0	748.8	755.3	762.7	761.2
137.5°	769.2	778.0	785.4	792.7	790.5
140°	800.7	806.6	814.6	821.2	817.6
142.5°	827.2	832.3	841.8	847.6	844.0
145°	855.0	854.2	866.7	871.8	868.1
147.5°	879.1	876.9	889.4	893.0	890.1
150°	902.6	897.5	909.2	913.5	909.9
152.5°	922.3	916.5	927.5	931.9	926.8
155°	941.4	934.9	943.6	948.0	942.2
157.5°	956.8	951.0	957.6	962.7	956.8
160°	970.0	965.6	970.0	974.4	969.2
162.5°	981.7	977.3	981.0	986.1	979.5
165°	991.9	987.6	989.8	994.9	989.8
167.5°	1000.0	995.6	997.8	1003.0	996.4
170°	1006.6	1002.2	1003.7	1008.8	1002.2
172.5°	1011.0	1006.6	1008.1	1013.2	1006.6
175°	1014.6	1009.5	1011.0	1016.1	1008.8
177.5°	1016.1	1011.0	1011.8	1016.9	1010.3
180°	1012.5	1012.5	1012.5	1012.5	1012.5

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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	12.89	13.97	13.66	14.75	15.71	12.46	13.54	13.23	14.32	15.28
	3H	14.56	15.53	15.34	16.32	17.31	14.09	15.06	14.87	15.85	16.84
	4H	15.15	16.06	15.95	16.87	17.86	14.68	15.59	15.48	16.40	17.39
	6H	15.56	16.40	16.36	17.21	18.22	15.09	15.93	15.89	16.74	17.75
	8H	15.66	16.47	16.48	17.30	18.31	15.19	16.00	16.01	16.83	17.84
	12H	15.72	16.48	16.54	17.31	18.34	15.24	16.01	16.06	16.83	17.87
4H	2H	13.38	14.29	14.17	15.09	16.09	13.03	13.94	13.83	14.75	15.74
	3H	15.25	16.01	16.06	16.85	17.86	14.86	15.62	15.67	16.46	17.47
	4H	15.97	16.66	16.79	17.50	18.54	15.57	16.26	16.39	17.10	18.14
	6H	16.49	17.09	17.33	17.95	18.99	16.08	16.68	16.92	17.55	18.59
	8H	16.64	17.20	17.48	18.06	19.11	16.23	16.79	17.08	17.65	18.71
	12H	16.72	17.22	17.58	18.10	19.16	16.30	16.81	17.17	17.69	18.75
8H	4H	16.18	16.74	17.02	17.60	18.65	15.82	16.38	16.67	17.24	18.30
	6H	16.81	17.27	17.68	18.17	19.23	16.45	16.92	17.32	17.81	18.87
	8H	17.03	17.44	17.91	18.33	19.41	16.66	17.08	17.55	17.97	19.04
	12H	17.16	17.53	18.05	18.41	19.54	16.78	17.15	17.67	18.03	19.16
12H	4H	16.17	16.68	17.04	17.56	18.62	15.82	16.33	16.69	17.21	18.27
	6H	16.84	17.25	17.72	18.15	19.22	16.49	16.91	17.38	17.80	18.87
	8H	17.09	17.45	17.97	18.34	19.46	16.73	17.10	17.62	17.98	19.11

END OF REPORT