

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: P924270

Luminaire Tested: DFN2DIP-HX2F0-030D040US950-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924270
REPORT IS A COMBINATION OF REPORTS P899173 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D040US950-FLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

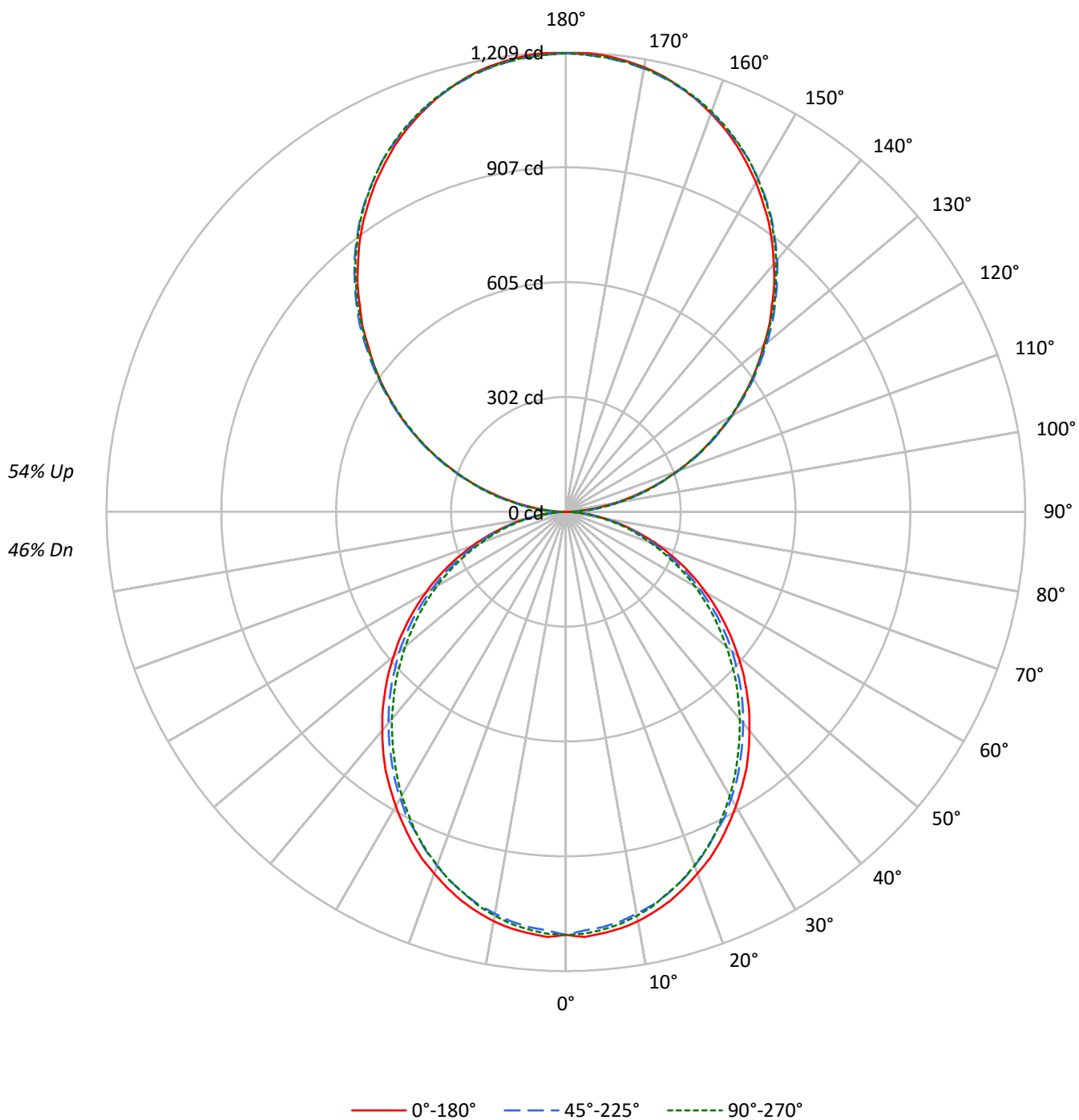
Lumens per Lamp: N/A
Luminaire Lumens: 6210.5 lumens
Efficiency: N/A
Efficacy: 113.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 54.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52
1	97	93	89	85	89	85	82	79	71	69	66	58	56	55	46	45	44
2	88	81	75	70	81	74	69	65	62	58	55	51	48	46	41	39	37
3	80	71	64	58	73	65	59	54	55	50	46	45	42	39	36	34	32
4	74	63	55	49	67	58	51	46	49	43	39	40	36	33	32	29	27
5	67	56	48	42	62	52	45	39	44	38	34	36	32	29	29	26	24
6	62	50	42	36	57	46	39	34	39	34	30	33	28	25	26	23	21
7	57	45	37	32	53	42	35	30	36	30	26	30	25	22	24	21	19
8	53	41	33	28	49	38	31	26	32	27	23	27	23	20	22	19	17
9	50	37	30	25	45	35	28	24	30	24	21	25	21	18	20	17	15
10	46	34	27	22	42	32	25	21	27	22	19	23	19	16	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2624	2624	2624
5°	2624	2581	2600
10°	2598	2540	2560
15°	2556	2492	2500
20°	2500	2428	2439
25°	2445	2352	2369
30°	2376	2281	2282
35°	2311	2199	2190
40°	2231	2115	2102
45°	2151	2031	2011
50°	2063	1942	1907
55°	1972	1841	1810
60°	1868	1720	1699
65°	1753	1594	1569
70°	1608	1442	1426
75°	1408	1258	1289
80°	1165	1023	1040
85°	792	643	644

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2151 cd/sqm

TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.8	1.7
10°-20°	294.9	4.7
20°-30°	433.4	7.0
30°-40°	503.4	8.1
40°-50°	502.7	8.1
50°-60°	438.4	7.1
60°-70°	324.1	5.2
70°-80°	183.3	3.0
80°-90°	51.8	0.8
90°-100°	74.7	1.2
100°-110°	237.3	3.8
110°-120°	406.1	6.5
120°-130°	534.0	8.6
130°-140°	599.4	9.7
140°-150°	587.8	9.5
150°-160°	493.1	7.9
160°-170°	327.0	5.3
170°-180°	114.3	1.8
0°-30°	833.1	13.4
0°-40°	1336.5	21.5
0°-60°	2277.6	36.7
0°-90°	2836.8	45.7
90°-120°	718.0	11.6
90°-150°	2439.3	39.3
90°-180°	3374.0	54.3
0°-180°	6210.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1114	1109	1098	1106	1104	106
15°	1060	1054	1040	1044	1039	299
25°	959	951	933	935	933	441
35°	828	817	800	793	788	517
45°	674	666	650	638	634	520
55°	510	503	490	478	472	456
65°	344	337	327	317	312	340
75°	180	178	172	166	168	192
85°	44	43	42	38	38	49
90°	1	13	36	34	34	6
95°	53	63	65	65	63	59
105°	219	222	224	226	226	231
115°	408	413	412	410	408	403
125°	593	602	599	596	594	530
135°	767	778	780	779	776	593
145°	931	938	944	945	941	582
155°	1064	1067	1070	1076	1072	490
165°	1158	1157	1157	1164	1159	327
175°	1205	1202	1200	1207	1201	114
180°	1207	1207	1207	1207	1207	

TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1113.6	1113.6	1113.6	1113.6	1113.6
2.5°	1120.1	1114.7	1102.9	1113.6	1111.6
5°	1113.6	1109.4	1097.6	1106.2	1104.1
7.5°	1106.2	1099.8	1087.9	1096.6	1094.4
10°	1094.4	1086.9	1074.1	1082.6	1079.5
12.5°	1078.3	1071.9	1059.1	1064.4	1062.3
15°	1060.1	1053.8	1039.8	1044.1	1038.7
17.5°	1037.6	1031.3	1017.3	1022.6	1017.3
20°	1013.0	1006.6	991.6	994.7	990.5
22.5°	988.4	978.8	964.8	964.8	962.6
25°	959.4	950.9	932.7	934.8	932.7
27.5°	927.3	919.8	905.9	902.8	897.4
30°	895.2	886.6	870.6	867.4	863.1
32.5°	861.0	854.6	837.4	830.9	826.6
35°	827.8	817.1	799.9	793.4	788.1
37.5°	790.3	780.7	763.5	755.9	750.6
40°	751.8	743.2	726.0	716.5	712.2
42.5°	714.3	705.7	688.6	677.8	671.4
45°	673.6	666.1	650.0	638.2	633.9
47.5°	633.9	626.5	609.3	597.5	591.1
50°	592.1	586.8	571.8	556.8	551.5
52.5°	551.5	544.0	530.1	518.3	510.8
55°	509.8	503.3	490.5	477.7	472.3
57.5°	467.9	462.6	448.7	435.8	431.5
60°	426.2	422.0	407.0	395.1	392.0
62.5°	385.5	378.0	367.3	356.6	352.3
65°	343.8	337.3	326.6	317.0	311.7
67.5°	301.0	295.5	285.9	278.5	274.2
70°	261.3	257.0	247.4	239.8	235.6
72.5°	220.7	216.3	210.9	203.5	200.3
75°	179.8	177.8	172.4	166.0	168.2
77.5°	143.5	139.2	137.0	133.8	130.7
80°	107.1	106.0	103.8	100.6	98.5
82.5°	72.8	72.8	71.8	67.4	67.4
85°	43.9	42.8	41.8	38.5	37.5
87.5°	19.3	17.2	15.0	11.8	10.7
90°	1.0	13.1	35.7	33.5	34.5
92.5°	22.5	30.5	31.7	32.7	32.7
95°	53.1	63.3	65.2	65.2	63.3
97.5°	88.4	97.9	101.9	101.9	101.9
100°	129.2	137.6	140.4	140.4	139.4
102.5°	172.1	178.3	182.3	183.4	182.3
105°	219.0	221.9	224.1	225.9	225.9
107.5°	265.6	270.0	270.0	270.6	265.6
110°	310.7	316.5	316.5	316.5	313.7

TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	359.5	365.7	364.5	361.7	359.5
115°	407.5	413.4	411.5	410.4	407.5
117.5°	455.2	463.2	458.1	455.2	452.3
120°	503.2	511.2	503.2	503.2	499.9
122.5°	546.8	557.0	552.0	549.0	546.8
125°	592.7	601.8	598.9	595.6	594.5
127.5°	637.5	648.7	644.7	640.3	637.5
130°	679.2	692.4	690.6	688.4	684.4
132.5°	726.2	736.4	737.2	732.0	729.1
135°	766.6	777.9	780.1	778.9	776.1
137.5°	811.8	820.8	822.6	821.9	817.6
140°	851.3	860.5	865.6	865.6	861.6
142.5°	892.2	901.2	904.1	905.3	901.2
145°	930.7	938.0	943.8	944.9	940.9
147.5°	965.3	974.3	978.7	980.5	976.5
150°	1000.9	1007.1	1011.1	1014.4	1011.1
152.5°	1032.6	1038.7	1043.9	1047.9	1043.9
155°	1064.2	1067.1	1070.4	1075.5	1072.2
157.5°	1091.6	1093.7	1095.5	1102.8	1097.7
160°	1115.9	1118.1	1119.1	1125.3	1121.0
162.5°	1138.4	1138.4	1139.6	1146.4	1141.4
165°	1157.8	1156.6	1156.6	1163.9	1158.8
167.5°	1175.2	1171.9	1171.9	1179.2	1174.1
170°	1188.3	1185.3	1184.3	1191.5	1185.3
172.5°	1197.4	1194.5	1193.4	1200.7	1194.5
175°	1204.7	1201.8	1199.6	1206.8	1200.7
177.5°	1208.7	1205.8	1203.6	1209.8	1203.6
180°	1206.8	1206.8	1206.8	1206.8	1206.8

TEST NUMBER: P924270

CATALOG NUMBER: DFN2DIP-HX2F0-030D040US950-FLLFLL

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	10.07	10.89	11.06	11.90	13.23	9.65	10.47	10.64	11.48	12.81
	3H	11.70	12.44	12.71	13.46	14.81	11.24	11.98	12.25	13.00	14.35
	4H	12.27	12.97	13.29	13.99	15.35	11.81	12.51	12.83	13.53	14.89
	6H	12.65	13.30	13.68	14.32	15.69	12.19	12.84	13.22	13.86	15.23
	8H	12.75	13.36	13.78	14.40	15.77	12.29	12.90	13.32	13.94	15.31
	12H	12.78	13.37	13.82	14.40	15.79	12.32	12.90	13.36	13.94	15.33
4H	2H	10.52	11.22	11.54	12.23	13.60	10.18	10.88	11.20	11.90	13.26
	3H	12.35	12.94	13.38	13.98	15.35	11.97	12.55	13.00	13.60	14.97
	4H	13.04	13.58	14.08	14.62	16.01	12.65	13.19	13.69	14.22	15.62
	6H	13.53	13.99	14.58	15.05	16.45	13.14	13.60	14.19	14.66	16.05
	8H	13.67	14.10	14.72	15.15	16.56	13.27	13.70	14.32	14.76	16.16
	12H	13.73	14.12	14.80	15.19	16.60	13.33	13.71	14.39	14.78	16.19
8H	4H	13.23	13.66	14.28	14.71	16.12	12.88	13.31	13.93	14.36	15.77
	6H	13.83	14.18	14.90	15.28	16.68	13.48	13.83	14.55	14.93	16.33
	8H	14.03	14.34	15.11	15.42	16.85	13.67	13.99	14.76	15.07	16.49
	12H	14.14	14.42	15.23	15.49	16.96	13.78	14.05	14.86	15.12	16.59
12H	4H	13.21	13.60	14.28	14.66	16.08	12.86	13.25	13.93	14.32	15.73
	6H	13.85	14.16	14.93	15.24	16.67	13.51	13.82	14.59	14.90	16.33
	8H	14.07	14.35	15.16	15.42	16.89	13.73	14.00	14.81	15.08	16.54