

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: P913536

Luminaire Tested: DFN2DIP-HX3F0-070D050US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913536
REPORT IS A COMBINATION OF REPORTS P899238 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-070D050US927-RLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

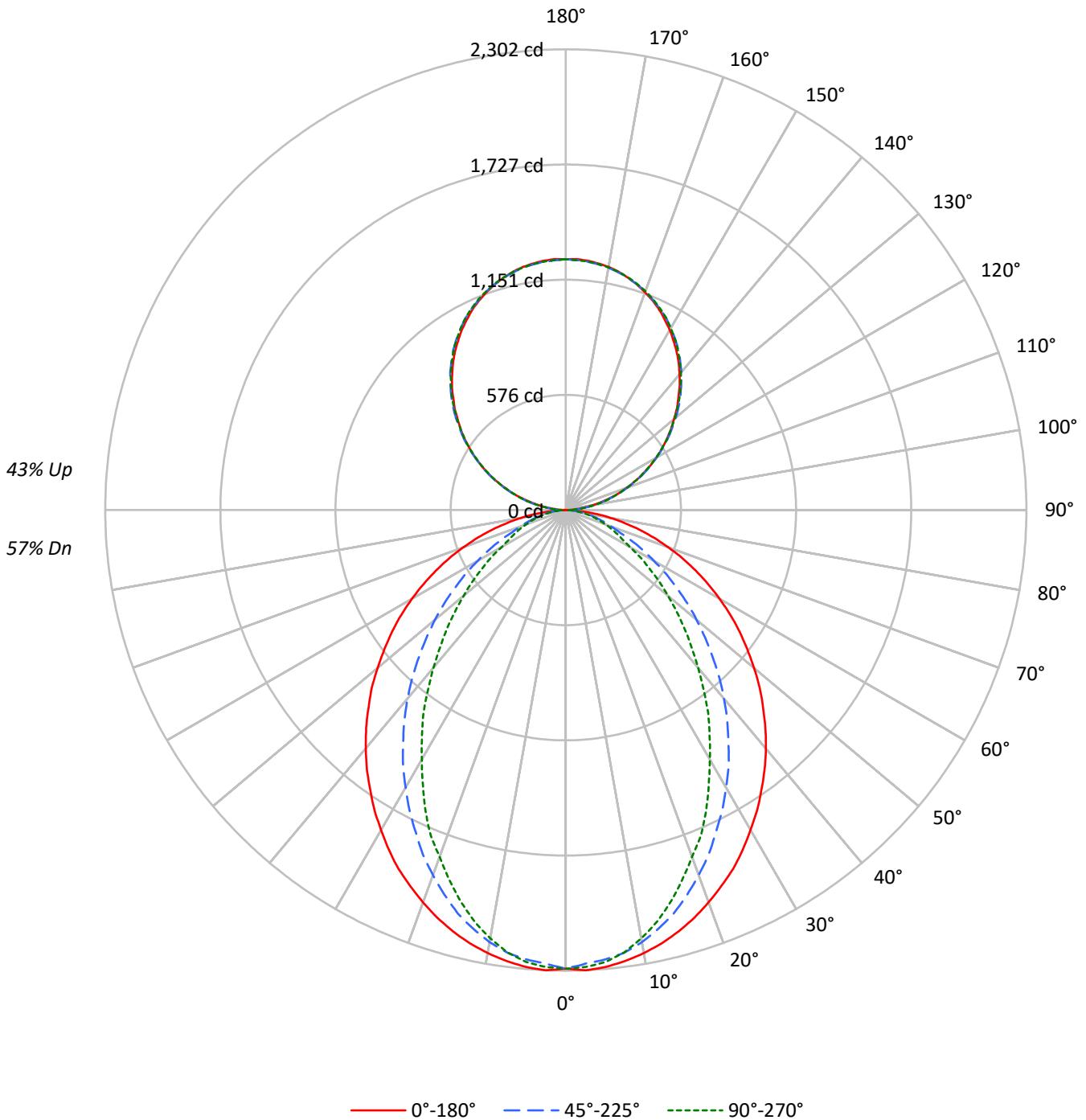
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8218.9 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.8
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: P913536
CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-RLFL

Luminous Intensity Polar Plot





TEST NUMBER: P913536

CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-RLLFLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10	0
RCR																					
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57			57
1	100	96	92	89	93	89	86	83	78	75	73	67	65	63	56	55	54	49			49
2	92	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	47	42			42
3	84	75	68	62	78	70	64	59	61	56	52	53	49	46	45	42	40	36			36
4	77	66	59	53	72	62	56	50	55	49	45	47	43	40	41	38	35	32			32
5	71	60	52	46	66	56	49	44	49	44	39	43	39	35	37	34	31	28			28
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28	25			25
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25	22			22
8	57	44	37	32	53	42	35	30	37	32	28	33	28	25	29	25	22	20			20
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20	18			18
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19	17			17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2655	2655	2655
5°	2658	2611	2628
10°	2630	2558	2541
15°	2593	2471	2407
20°	2544	2353	2244
25°	2493	2221	2086
30°	2426	2086	1887
35°	2360	1940	1712
40°	2293	1790	1511
45°	2216	1623	1329
50°	2135	1456	1152
55°	2051	1276	981
60°	1953	1089	806
65°	1841	899	724
70°	1705	722	653
75°	1533	633	591
80°	1285	525	508
85°	878	342	373

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2216 cd/sqm



TEST NUMBER: P913536

CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	2.6
10°-20°	589.7	7.2
20°-30°	827.9	10.1
30°-40°	902.4	11.0
40°-50°	829.4	10.1
50°-60°	651.4	7.9
60°-70°	424.0	5.2
70°-80°	218.2	2.7
80°-90°	59.3	0.7
90°-100°	77.5	0.9
100°-110°	246.3	3.0
110°-120°	421.5	5.1
120°-130°	554.3	6.7
130°-140°	622.2	7.6
140°-150°	610.1	7.4
150°-160°	511.8	6.2
160°-170°	339.4	4.1
170°-180°	118.6	1.4
0°-30°	1632.3	19.9
0°-40°	2534.7	30.8
0°-60°	4015.5	48.9
0°-90°	4717.0	57.4
90°-120°	745.3	9.1
90°-150°	2532.0	30.8
90°-180°	3502.0	42.6
0°-180°	8218.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2282	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	102
90°	1	14	37	35	36	8
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	



TEST NUMBER: P913536

CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.9	2291.9	2291.9	2291.9	2291.9
2.5°	2302.2	2291.9	2269.0	2289.9	2285.7
5°	2291.9	2281.5	2254.5	2273.2	2267.0
7.5°	2273.2	2260.8	2231.8	2239.9	2229.6
10°	2248.3	2233.8	2192.4	2186.0	2173.7
12.5°	2217.2	2198.5	2142.5	2130.1	2107.2
15°	2179.8	2157.0	2086.5	2047.2	2026.5
17.5°	2136.3	2103.1	2015.9	1970.3	1937.1
20°	2086.5	2044.9	1941.3	1889.6	1843.8
22.5°	2032.7	1984.9	1864.5	1794.1	1763.1
25°	1978.7	1912.2	1775.4	1690.4	1659.2
27.5°	1914.5	1843.8	1692.4	1595.0	1547.2
30°	1846.0	1767.0	1601.1	1495.5	1439.4
32.5°	1779.6	1684.1	1514.2	1389.6	1337.7
35°	1704.9	1599.1	1416.7	1286.0	1240.2
37.5°	1632.4	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.9	1082.7	1028.7
42.5°	1476.8	1344.1	1134.6	981.0	929.3
45°	1393.8	1254.7	1037.1	889.7	839.9
47.5°	1315.0	1167.8	943.8	796.4	750.8
50°	1227.9	1080.7	852.5	709.2	665.9
52.5°	1142.7	987.1	765.3	628.4	589.1
55°	1059.8	898.0	674.0	549.7	510.3
57.5°	974.9	808.9	593.3	477.1	443.9
60°	887.7	721.8	508.1	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.6	547.5	360.9	290.5	284.1
67.5°	632.6	464.5	290.5	255.0	248.9
70°	545.5	383.7	240.5	219.8	211.4
72.5°	462.6	309.0	201.1	184.7	180.5
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.7	122.3	118.2
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.1	45.6	39.4	39.4	39.4
87.5°	33.2	16.5	16.5	14.5	14.5
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5



TEST NUMBER: P913536

CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7



TEST NUMBER: P913536
 CATALOG NUMBER: DFN2DIP-HX3F0-070D050US927-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	11.16	12.05	12.06	12.97	14.13	7.13	8.03	8.03	8.94	10.11
	3H	12.83	13.63	13.74	14.56	15.74	8.32	9.12	9.23	10.05	11.24
	4H	13.44	14.19	14.36	15.12	16.32	8.77	9.53	9.70	10.46	11.66
	6H	13.86	14.55	14.79	15.49	16.70	9.09	9.79	10.03	10.72	11.94
	8H	13.98	14.64	14.93	15.59	16.80	9.18	9.85	10.13	10.80	12.01
	12H	14.04	14.67	14.99	15.62	16.85	9.23	9.86	10.18	10.80	12.04
4H	2H	11.18	11.94	12.11	12.87	14.07	7.73	8.49	8.66	9.42	10.62
	3H	13.01	13.64	13.95	14.60	15.81	9.08	9.71	10.03	10.67	11.88
	4H	13.70	14.27	14.65	15.22	16.46	9.63	10.20	10.58	11.16	12.39
	6H	14.21	14.70	15.17	15.68	16.92	10.05	10.54	11.01	11.52	12.76
	8H	14.38	14.84	15.35	15.81	17.06	10.18	10.64	11.14	11.61	12.86
	12H	14.47	14.89	15.46	15.88	17.13	10.24	10.66	11.23	11.64	12.90
8H	4H	13.67	14.13	14.64	15.10	16.35	9.91	10.37	10.88	11.34	12.59
	6H	14.23	14.61	15.22	15.62	16.87	10.43	10.80	11.42	11.82	13.07
	8H	14.44	14.78	15.44	15.78	17.05	10.61	10.95	11.61	11.95	13.22
	12H	14.58	14.87	15.58	15.87	17.18	10.73	11.03	11.73	12.02	13.34
12H	4H	13.62	14.04	14.61	15.03	16.28	9.92	10.33	10.90	11.32	12.58
	6H	14.20	14.54	15.20	15.54	16.81	10.47	10.81	11.47	11.81	13.08
	8H	14.42	14.72	15.42	15.71	17.03	10.68	10.98	11.68	11.97	13.29