

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: P916269

Luminaire Tested: DFN2DIP-HX3F0-070D060US930-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916269
REPORT IS A COMBINATION OF REPORTS P900772 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-070D060US930-RLLONL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

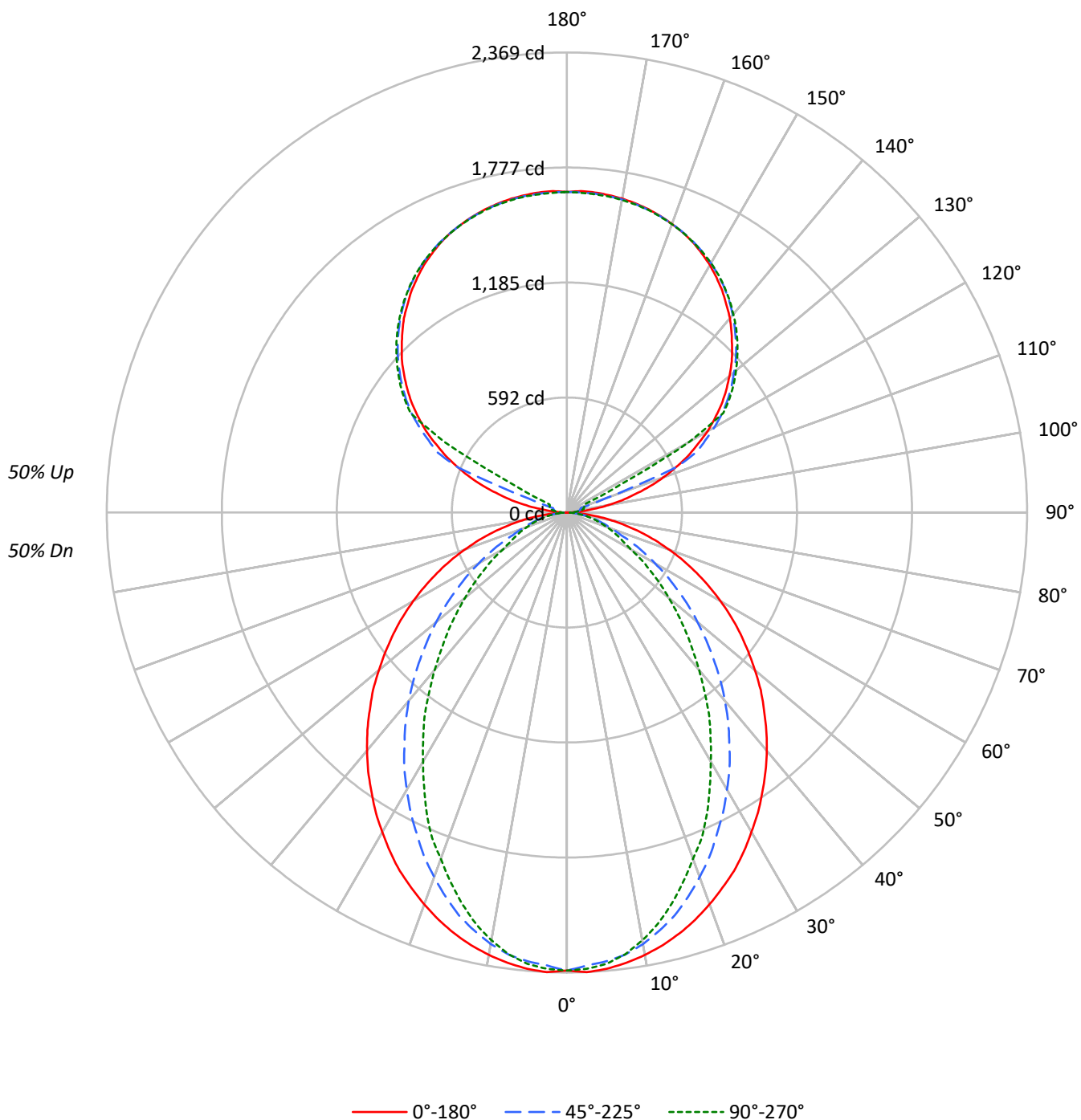
Lumens per Lamp: N/A
Luminaire Lumens: 9693.9 lumens
Efficiency: N/A
Efficacy: 84.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 114.5
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: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	50	49	48
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	45	43	41
3	82	73	66	60	76	68	62	57	58	53	50	49	45	43	40	38	36
4	76	65	57	52	70	60	54	49	52	47	43	44	40	37	36	34	31
5	70	58	50	45	64	54	47	42	47	41	37	40	35	32	33	30	28
6	64	52	45	39	59	49	42	37	42	37	33	36	32	29	30	27	25
7	59	47	40	34	55	44	37	32	38	33	29	33	29	25	28	24	22
8	55	43	36	30	51	40	34	29	35	30	26	30	26	23	25	22	20
9	52	40	32	27	48	37	30	26	32	27	23	28	24	21	24	20	18
10	48	36	29	25	45	34	28	23	30	25	21	26	22	19	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2732	2732	2732
5°	2735	2687	2705
10°	2707	2632	2615
15°	2669	2543	2478
20°	2618	2422	2310
25°	2566	2286	2147
30°	2497	2146	1942
35°	2429	1997	1761
40°	2360	1842	1555
45°	2280	1671	1368
50°	2197	1498	1185
55°	2111	1314	1010
60°	2010	1121	830
65°	1895	926	745
70°	1754	743	672
75°	1578	651	608
80°	1323	540	523
85°	903	351	384

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2280 cd/sqm

TEST NUMBER: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.1	2.3
10°-20°	606.9	6.3
20°-30°	852.0	8.8
30°-40°	928.8	9.6
40°-50°	853.6	8.8
50°-60°	670.4	6.9
60°-70°	436.4	4.5
70°-80°	224.6	2.3
80°-90°	60.2	0.6
90°-100°	54.4	0.6
100°-110°	202.9	2.1
110°-120°	538.2	5.6
120°-130°	892.7	9.2
130°-140°	948.2	9.8
140°-150°	881.3	9.1
150°-160°	708.5	7.3
160°-170°	456.5	4.7
170°-180°	157.1	1.6
0°-30°	1679.9	17.3
0°-40°	2608.7	26.9
0°-60°	4132.7	42.6
0°-90°	4853.9	50.1
90°-120°	795.6	8.2
90°-150°	3517.8	36.3
90°-180°	4840.0	49.9
0°-180°	9693.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2359	2359	2359	2359	2359	
5°	2359	2348	2320	2340	2333	224
15°	2244	2220	2147	2107	2086	632
25°	2036	1968	1827	1740	1708	937
35°	1755	1646	1458	1324	1276	1098
45°	1434	1291	1067	916	864	1108
55°	1091	924	694	566	525	975
65°	736	564	371	299	292	730
75°	393	243	171	156	154	415
85°	92	47	40	40	40	105
90°	1	14	24	30	32	9
95°	78	38	47	53	51	92
105°	363	399	73	86	91	388
115°	687	707	737	184	98	676
125°	971	987	1009	1018	1021	866
135°	1202	1221	1232	1244	1241	928
145°	1394	1393	1413	1422	1416	872
155°	1535	1524	1539	1546	1536	707
165°	1618	1610	1614	1622	1614	457
175°	1654	1646	1648	1657	1645	157
180°	1651	1651	1651	1651	1651	

TEST NUMBER: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2358.7	2358.7	2358.7	2358.7	2358.7
2.5°	2369.3	2358.7	2335.2	2356.7	2352.4
5°	2358.7	2348.1	2320.3	2339.5	2333.1
7.5°	2339.5	2326.8	2296.9	2305.3	2294.7
10°	2313.9	2299.0	2256.3	2249.8	2237.1
12.5°	2281.9	2262.7	2205.0	2192.3	2168.7
15°	2243.5	2219.9	2147.4	2106.9	2085.6
17.5°	2198.6	2164.5	2074.8	2027.8	1993.6
20°	2147.4	2104.6	1998.0	1944.7	1897.6
22.5°	2092.0	2042.8	1918.9	1846.4	1814.5
25°	2036.5	1968.0	1827.2	1739.8	1707.6
27.5°	1970.3	1897.6	1741.8	1641.5	1592.4
30°	1899.9	1818.6	1647.8	1539.1	1481.4
32.5°	1831.5	1733.2	1558.4	1430.2	1376.7
35°	1754.7	1645.8	1458.1	1323.6	1276.4
37.5°	1680.0	1562.4	1364.1	1216.6	1163.4
40°	1600.9	1473.0	1265.8	1114.3	1058.7
42.5°	1519.9	1383.3	1167.7	1009.6	956.4
45°	1434.5	1291.4	1067.4	915.7	864.5
47.5°	1353.4	1201.9	971.3	819.6	772.7
50°	1263.7	1112.2	877.3	729.9	685.3
52.5°	1176.1	1015.9	787.7	646.8	606.3
55°	1090.7	924.2	693.7	565.7	525.2
57.5°	1003.3	832.5	610.6	491.0	456.8
60°	913.6	742.8	522.9	414.3	380.0
62.5°	826.1	655.4	448.2	345.8	328.8
65°	736.5	563.5	371.4	299.0	292.4
67.5°	651.1	478.1	299.0	262.4	256.2
70°	561.4	394.9	247.5	226.2	217.6
72.5°	476.1	318.0	207.0	190.0	185.7
75°	392.7	243.2	170.7	155.8	153.8
77.5°	309.6	172.8	134.5	125.9	121.6
80°	232.6	123.8	102.4	94.0	94.0
82.5°	162.2	83.3	70.4	66.1	66.1
85°	91.7	46.9	40.5	40.5	40.5
87.5°	34.2	17.0	17.0	14.9	14.9
90°	1.1	14.3	23.8	29.9	32.2
92.5°	29.9	25.1	28.6	31.1	32.2
95°	77.6	38.2	46.6	52.7	51.4
97.5°	139.7	41.8	60.8	64.6	65.7
100°	211.5	47.8	68.1	77.6	80.0
102.5°	290.2	288.0	70.5	83.6	87.2
105°	363.1	399.0	72.9	85.9	90.8
107.5°	448.0	477.8	75.3	88.4	93.2
110°	529.3	554.2	209.1	89.7	94.3



TEST NUMBER: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	605.7	627.1	606.8	91.9	95.6
115°	686.9	707.2	737.1	184.0	98.0
117.5°	757.3	781.2	801.6	630.7	317.7
120°	836.3	854.1	875.7	890.0	728.7
122.5°	903.0	922.2	946.2	953.2	954.6
125°	971.2	986.8	1009.4	1017.8	1021.3
127.5°	1033.3	1050.0	1068.0	1079.9	1081.1
130°	1091.8	1111.0	1124.1	1137.3	1136.1
132.5°	1151.6	1167.2	1180.2	1191.0	1189.8
135°	1201.8	1221.0	1231.6	1243.7	1241.2
137.5°	1254.3	1268.6	1280.7	1292.6	1289.1
140°	1305.6	1315.3	1328.4	1339.1	1333.2
142.5°	1348.7	1357.1	1372.6	1382.1	1376.1
145°	1394.2	1392.9	1413.2	1421.6	1415.6
147.5°	1433.5	1429.9	1450.2	1456.1	1451.5
150°	1471.8	1463.4	1482.5	1489.6	1483.7
152.5°	1504.0	1494.4	1512.3	1519.6	1511.2
155°	1535.0	1524.4	1538.7	1545.8	1536.3
157.5°	1560.2	1550.6	1561.4	1569.8	1560.2
160°	1581.7	1574.4	1581.7	1588.8	1580.5
162.5°	1600.7	1593.6	1599.5	1607.9	1597.2
165°	1617.5	1610.4	1613.9	1622.3	1613.9
167.5°	1630.6	1623.4	1627.1	1635.5	1624.6
170°	1641.4	1634.2	1636.6	1644.9	1634.2
172.5°	1648.5	1641.4	1643.8	1652.2	1641.4
175°	1654.5	1646.1	1648.5	1656.8	1644.9
177.5°	1656.8	1648.5	1649.8	1658.2	1647.4
180°	1650.9	1650.9	1650.9	1650.9	1650.9

TEST NUMBER: P916269

CATALOG NUMBER: DFN2DIP-HX3F0-070D060US930-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	10.60	11.43	11.57	12.41	13.68	6.58	7.41	7.54	8.38	9.66
	3H	12.27	13.01	13.25	14.00	15.29	7.76	8.51	8.74	9.49	10.78
	4H	12.88	13.58	13.86	14.56	15.87	8.21	8.91	9.20	9.90	11.20
	6H	13.29	13.94	14.29	14.93	16.24	8.53	9.17	9.53	10.17	11.48
	8H	13.41	14.03	14.42	15.04	16.35	8.62	9.23	9.62	10.24	11.55
	12H	13.47	14.06	14.48	15.06	16.39	8.66	9.24	9.67	10.24	11.58
4H	2H	10.62	11.32	11.61	12.31	13.61	7.17	7.87	8.16	8.86	10.16
	3H	12.44	13.02	13.44	14.04	15.36	8.51	9.10	9.52	10.11	11.43
	4H	13.13	13.66	14.14	14.67	16.01	9.06	9.59	10.07	10.60	11.94
	6H	13.63	14.09	14.66	15.12	16.46	9.47	9.93	10.50	10.96	12.30
	8H	13.80	14.23	14.83	15.26	16.61	9.60	10.03	10.62	11.05	12.40
	12H	13.90	14.28	14.94	15.32	16.68	9.66	10.05	10.70	11.09	12.45
8H	4H	13.09	13.52	14.12	14.55	15.90	9.33	9.76	10.36	10.79	12.14
	6H	13.65	14.00	14.70	15.07	16.42	9.85	10.20	10.89	11.27	12.62
	8H	13.86	14.17	14.92	15.22	16.59	10.03	10.34	11.09	11.40	12.77
	12H	14.00	14.27	15.05	15.31	16.73	10.15	10.42	11.21	11.47	12.88
12H	4H	13.04	13.43	14.09	14.47	15.83	9.34	9.72	10.38	10.76	12.12
	6H	13.63	13.94	14.68	14.99	16.36	9.89	10.20	10.95	11.26	12.63
	8H	13.84	14.11	14.90	15.16	16.57	10.10	10.37	11.16	11.42	12.83

END OF REPORT