

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: P916288

Luminaire Tested: DFN2DIP-HX3F0-080D050US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916288
REPORT IS A COMBINATION OF REPORTS P899240 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-080D050US930-RLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

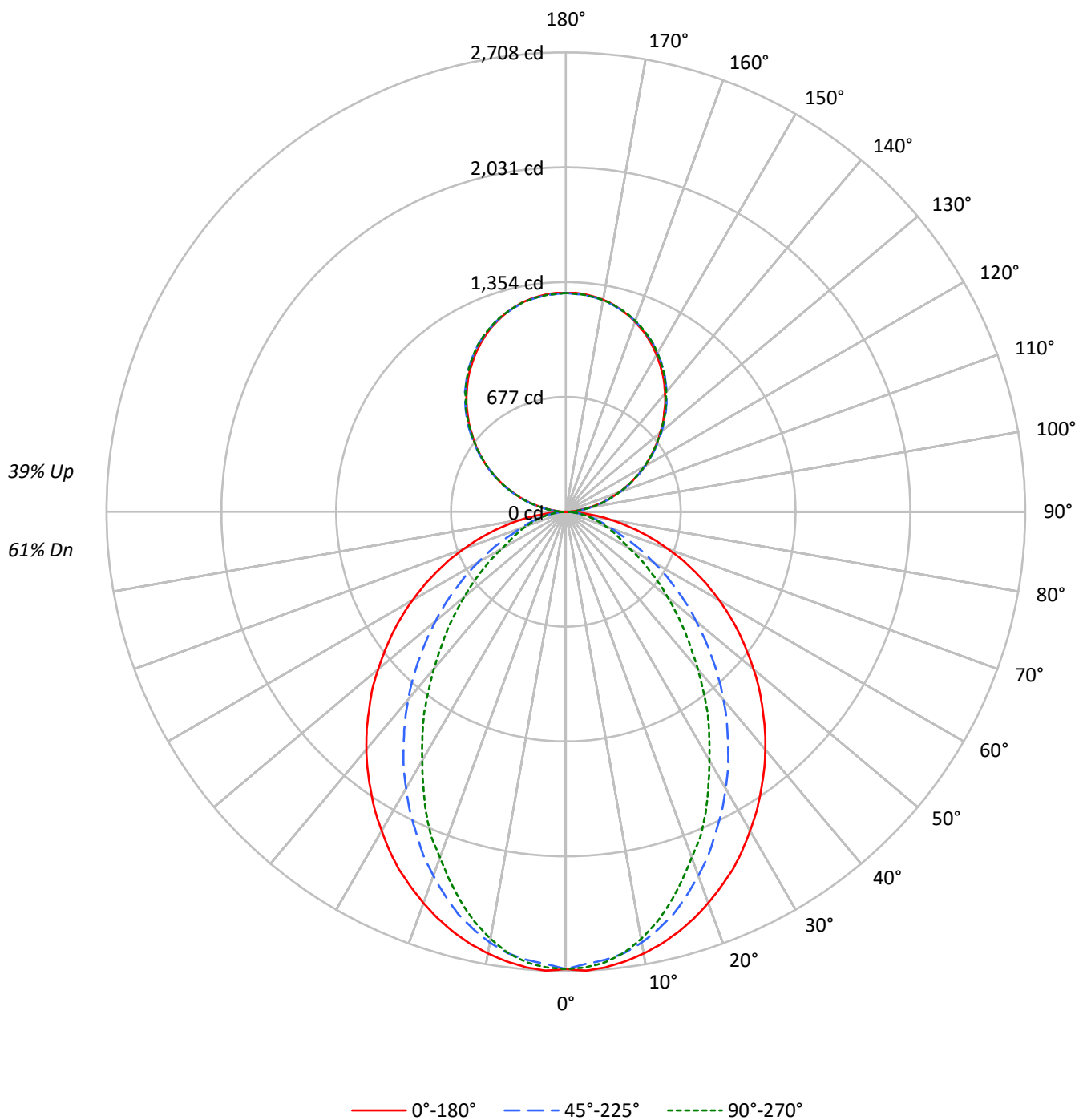
Lumens per Lamp: N/A
Luminaire Lumens: 9151.7 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 116.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-RLLFLL

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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66
1	101	97	93	89	94	91	87	84	79	77	75	69	67	65	59	58	57
2	92	85	79	74	86	80	75	70	70	66	63	61	58	56	53	51	49
3	85	75	68	62	79	71	64	59	62	57	53	55	51	48	47	45	42
4	78	67	59	53	72	63	56	51	56	50	46	49	45	41	43	39	37
5	72	60	52	46	67	57	50	44	50	45	40	44	40	36	39	35	32
6	66	54	46	41	62	51	44	39	46	40	35	40	36	32	35	32	29
7	61	49	41	36	57	47	39	34	42	36	32	37	32	29	32	29	26
8	57	45	37	32	53	43	36	31	38	32	28	34	29	26	30	26	23
9	53	41	34	29	50	39	32	28	35	29	26	31	27	23	28	24	21
10	50	38	31	26	47	36	29	25	32	27	23	29	25	21	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3123	3123	3123
5°	3126	3071	3091
10°	3094	3008	2989
15°	3050	2907	2832
20°	2992	2768	2639
25°	2933	2612	2454
30°	2854	2453	2219
35°	2776	2282	2013
40°	2698	2105	1777
45°	2606	1909	1563
50°	2511	1712	1354
55°	2412	1501	1154
60°	2297	1281	948
65°	2165	1058	851
70°	2005	850	768
75°	1803	744	695
80°	1511	618	597
85°	1033	402	439

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2606 cd/sqm

TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.6	2.8
10°-20°	693.6	7.6
20°-30°	973.7	10.6
30°-40°	1061.4	11.6
40°-50°	975.6	10.7
50°-60°	766.2	8.4
60°-70°	498.7	5.4
70°-80°	256.7	2.8
80°-90°	69.2	0.8
90°-100°	79.8	0.9
100°-110°	253.5	2.8
110°-120°	433.8	4.7
120°-130°	570.5	6.2
130°-140°	640.4	7.0
140°-150°	627.9	6.9
150°-160°	526.8	5.8
160°-170°	349.3	3.8
170°-180°	122.1	1.3
0°-30°	1919.9	21.0
0°-40°	2981.4	32.6
0°-60°	4723.1	51.6
0°-90°	5547.7	60.6
90°-120°	767.0	8.4
90°-150°	2605.8	28.5
90°-180°	3604.0	39.4
0°-180°	9151.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2696	2696	2696	2696	2696	
5°	2696	2684	2652	2674	2666	256
15°	2564	2537	2454	2408	2384	722
25°	2327	2249	2088	1988	1952	1070
35°	2005	1881	1666	1513	1459	1255
45°	1639	1476	1220	1046	988	1266
55°	1246	1056	793	646	600	1114
65°	842	644	424	342	334	834
75°	449	278	195	178	176	475
85°	105	54	46	46	46	120
90°	1	14	38	36	37	9
95°	57	68	70	70	68	63
105°	234	237	240	241	241	247
115°	435	442	440	438	435	431
125°	633	643	640	636	635	566
135°	819	831	833	832	829	633
145°	994	1002	1008	1009	1005	621
155°	1137	1140	1144	1149	1145	523
165°	1237	1236	1236	1243	1238	349
175°	1287	1284	1282	1289	1283	122
180°	1289	1289	1289	1289	1289	

TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2695.7	2695.7	2695.7	2695.7	2695.7
2.5°	2707.9	2695.7	2668.8	2693.3	2688.4
5°	2695.7	2683.6	2651.7	2673.7	2666.4
7.5°	2673.7	2659.2	2625.0	2634.6	2622.4
10°	2644.4	2627.4	2578.7	2571.2	2556.7
12.5°	2608.0	2586.0	2519.9	2505.4	2478.5
15°	2563.9	2537.0	2454.2	2407.9	2383.5
17.5°	2512.7	2473.6	2371.1	2317.6	2278.4
20°	2454.2	2405.3	2283.4	2222.6	2168.7
22.5°	2390.8	2334.6	2193.1	2110.2	2073.7
25°	2327.4	2249.2	2088.2	1988.3	1951.6
27.5°	2251.8	2168.7	1990.6	1876.0	1819.8
30°	2171.3	2078.4	1883.3	1759.0	1693.0
32.5°	2093.1	1980.8	1781.0	1634.5	1573.4
35°	2005.4	1880.9	1666.3	1512.6	1458.7
37.5°	1919.9	1785.7	1558.9	1390.4	1329.6
40°	1829.7	1683.4	1446.6	1273.4	1210.0
42.5°	1737.0	1580.9	1334.5	1153.9	1093.0
45°	1639.4	1475.9	1219.8	1046.4	988.0
47.5°	1546.8	1373.6	1110.1	936.7	883.1
50°	1444.2	1271.1	1002.7	834.2	783.2
52.5°	1344.1	1161.1	900.2	739.2	692.9
55°	1246.5	1056.3	792.8	646.5	600.2
57.5°	1146.6	951.5	697.8	561.2	522.0
60°	1044.1	849.0	597.6	473.4	434.3
62.5°	944.2	749.0	512.3	395.3	375.9
65°	841.7	643.9	424.4	341.7	334.1
67.5°	744.1	546.4	341.7	299.9	292.8
70°	641.6	451.4	282.9	258.5	248.7
72.5°	544.0	363.4	236.6	217.2	212.2
75°	448.8	278.0	195.2	178.1	175.8
77.5°	353.8	197.5	153.8	143.9	139.0
80°	265.8	141.6	117.0	107.4	107.4
82.5°	185.3	95.2	80.5	75.6	75.6
85°	104.8	53.6	46.3	46.3	46.3
87.5°	39.1	19.4	19.4	17.1	17.1
90°	1.1	14.0	38.1	35.8	36.9
92.5°	24.1	32.6	33.8	35.0	35.0
95°	56.7	67.7	69.5	69.5	67.7
97.5°	94.4	104.5	108.8	108.8	108.8
100°	137.9	146.9	150.0	150.0	148.9
102.5°	183.8	190.5	194.7	195.9	194.7
105°	234.0	237.1	239.5	241.3	241.3
107.5°	283.7	288.4	288.4	289.2	283.7
110°	331.9	338.2	338.2	338.2	335.0

TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	384.0	390.6	389.5	386.4	384.0
115°	435.3	441.6	439.6	438.5	435.3
117.5°	486.2	494.8	489.3	486.2	483.1
120°	537.5	546.1	537.5	537.5	534.0
122.5°	584.2	595.1	589.6	586.5	584.2
125°	633.2	642.9	639.8	636.3	635.1
127.5°	680.9	693.0	688.8	684.0	680.9
130°	725.7	739.6	737.7	735.4	731.1
132.5°	775.8	786.7	787.5	782.0	778.9
135°	819.0	831.0	833.3	832.2	829.1
137.5°	867.2	876.9	878.8	878.0	873.3
140°	909.5	919.2	924.6	924.6	920.4
142.5°	953.0	962.8	965.9	967.0	962.8
145°	994.3	1002.0	1008.2	1009.4	1005.1
147.5°	1031.2	1040.9	1045.5	1047.5	1043.2
150°	1069.3	1075.9	1080.1	1083.6	1080.1
152.5°	1103.1	1109.7	1115.1	1119.4	1115.1
155°	1136.9	1140.0	1143.5	1148.9	1145.4
157.5°	1166.0	1168.3	1170.3	1178.1	1172.6
160°	1192.0	1194.4	1195.6	1202.2	1197.5
162.5°	1216.2	1216.2	1217.3	1224.7	1219.3
165°	1236.8	1235.6	1235.6	1243.4	1237.9
167.5°	1255.4	1251.9	1251.9	1259.7	1254.3
170°	1269.4	1266.3	1265.2	1272.9	1266.3
172.5°	1279.1	1276.0	1274.9	1282.6	1276.0
175°	1286.9	1283.8	1281.5	1289.2	1282.6
177.5°	1291.2	1288.1	1285.7	1292.3	1285.7
180°	1289.2	1289.2	1289.2	1289.2	1289.2

TEST NUMBER: P916288

CATALOG NUMBER: DFN2DIP-HX3F0-080D050US930-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	12.00	12.92	12.86	13.81	14.92	7.97	8.90	8.84	9.78	10.90
	3H	13.67	14.50	14.55	15.39	16.53	9.16	9.99	10.04	10.88	12.03
	4H	14.28	15.06	15.18	15.96	17.11	9.62	10.40	10.51	11.30	12.45
	6H	14.70	15.42	15.61	16.33	17.49	9.94	10.66	10.85	11.56	12.73
	8H	14.83	15.51	15.74	16.43	17.60	10.03	10.71	10.94	11.64	12.80
	12H	14.89	15.54	15.81	16.46	17.64	10.07	10.72	10.99	11.64	12.83
4H	2H	12.02	12.81	12.93	13.71	14.86	8.58	9.36	9.48	10.26	11.41
	3H	13.85	14.50	14.77	15.43	16.60	9.93	10.58	10.84	11.51	12.67
	4H	14.54	15.13	15.47	16.06	17.25	10.48	11.07	11.40	11.99	13.18
	6H	15.06	15.57	15.99	16.52	17.71	10.90	11.40	11.83	12.35	13.55
	8H	15.23	15.70	16.17	16.65	17.85	11.02	11.50	11.96	12.44	13.65
	12H	15.32	15.75	16.28	16.71	17.92	11.09	11.52	12.05	12.48	13.69
8H	4H	14.52	14.99	15.46	15.94	17.14	10.76	11.23	11.70	12.18	13.38
	6H	15.08	15.47	16.04	16.46	17.66	11.27	11.67	12.24	12.65	13.86
	8H	15.29	15.64	16.26	16.61	17.84	11.46	11.81	12.44	12.78	14.01
	12H	15.43	15.73	16.40	16.70	17.97	11.58	11.89	12.56	12.86	14.13
12H	4H	14.47	14.90	15.43	15.86	17.07	10.77	11.19	11.72	12.16	13.37
	6H	15.05	15.40	16.03	16.38	17.60	11.32	11.67	12.30	12.64	13.87
	8H	15.27	15.58	16.25	16.55	17.82	11.53	11.84	12.51	12.81	14.08