

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: P918898

Luminaire Tested: DFN2DIP-HX3F0-030D060US935-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918898
REPORT IS A COMBINATION OF REPORTS P899243 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-030D060US935-FLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

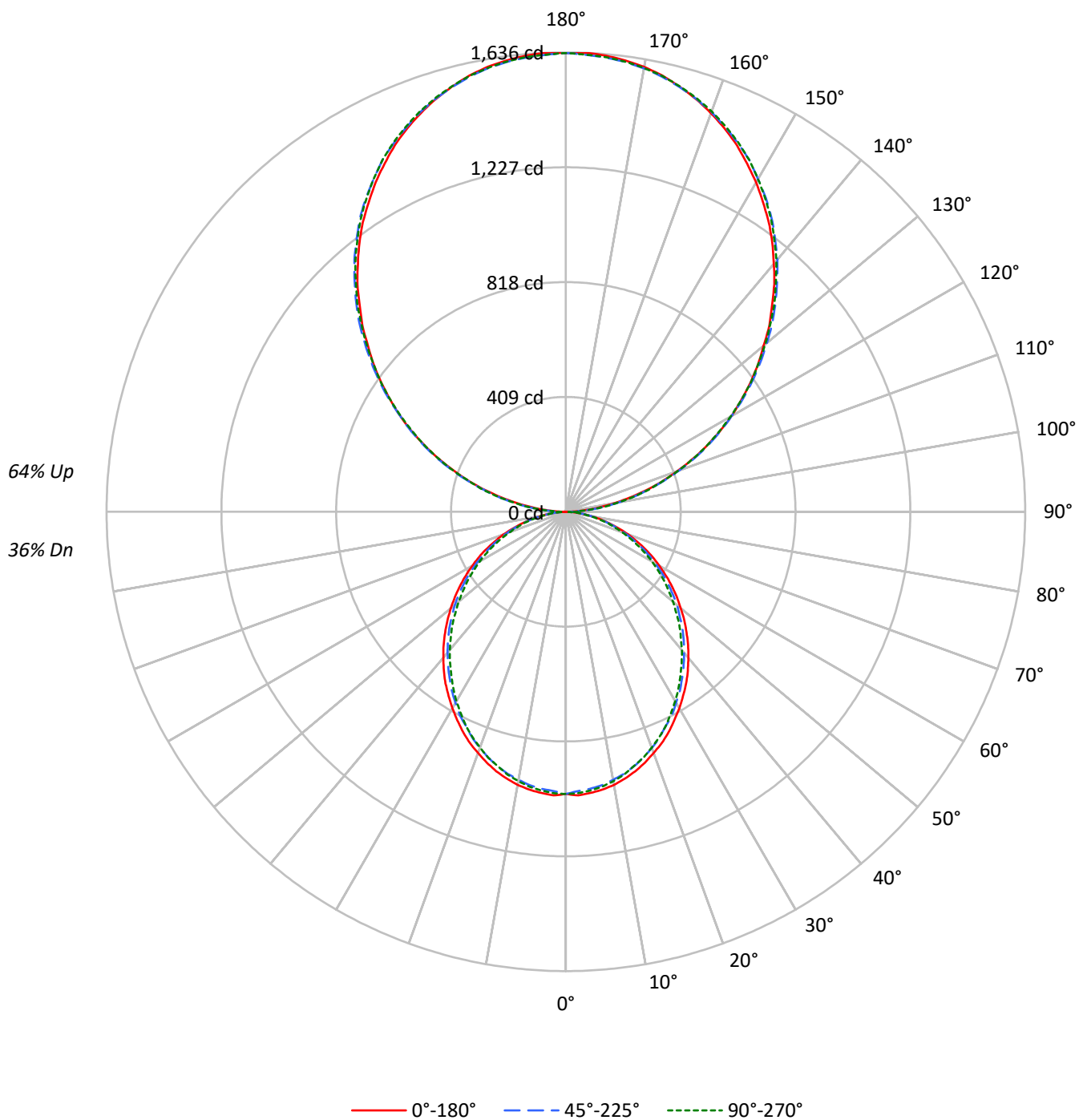
Lumens per Lamp: N/A
Luminaire Lumens: 7129.1 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 69
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.983
Total Harmonic Distortion (THDi): 0.073
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-FLLFL

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26
4	72	61	54	48	65	56	49	44	45	40	37	36	32	29	27	24	22
5	66	54	47	41	59	50	43	38	40	35	31	32	28	25	24	22	20
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1164	1164	1164
5°	1165	1147	1155
10°	1156	1131	1139
15°	1138	1111	1114
20°	1115	1085	1088
25°	1091	1053	1059
30°	1062	1023	1021
35°	1034	989	982
40°	1000	954	944
45°	966	918	905
50°	929	881	861
55°	890	838	820
60°	846	787	772
65°	798	735	717
70°	737	671	657
75°	652	593	600
80°	550	495	494
85°	390	327	320

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1538 cd/sqm

TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.3
10°-20°	266.2	3.7
20°-30°	391.1	5.5
30°-40°	454.3	6.4
40°-50°	453.7	6.4
50°-60°	395.6	5.5
60°-70°	292.5	4.1
70°-80°	165.5	2.3
80°-90°	48.3	0.7
90°-100°	101.1	1.4
100°-110°	321.2	4.5
110°-120°	549.7	7.7
120°-130°	723.0	10.1
130°-140°	811.5	11.4
140°-150°	795.8	11.2
150°-160°	667.5	9.4
160°-170°	442.7	6.2
170°-180°	154.7	2.2
0°-30°	751.9	10.5
0°-40°	1206.2	16.9
0°-60°	2055.6	28.8
0°-90°	2561.8	35.9
90°-120°	972.0	13.6
90°-150°	3302.3	46.3
90°-180°	4567.0	64.1
0°-180°	7129.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1005	1005	1005	1005	1005	
5°	1005	1001	991	998	996	95
15°	957	951	938	942	938	269
25°	866	858	842	844	842	398
35°	747	737	722	716	711	467
45°	608	601	587	576	572	469
55°	460	454	443	431	426	411
65°	310	304	295	286	281	307
75°	162	160	156	150	152	173
85°	40	39	38	35	34	44
90°	2	18	48	45	47	7
95°	72	86	88	88	86	80
105°	296	300	303	306	306	313
115°	552	560	557	556	552	546
125°	802	815	811	806	805	717
135°	1038	1053	1056	1055	1051	802
145°	1260	1270	1278	1279	1274	787
155°	1441	1445	1449	1456	1452	663
165°	1567	1566	1566	1576	1569	442
175°	1631	1627	1624	1634	1625	155
180°	1634	1634	1634	1634	1634	

TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1005.0	1005.0	1005.0	1005.0	1005.0
2.5°	1010.9	1006.1	995.4	1005.0	1003.2
5°	1005.0	1001.3	990.6	998.3	996.4
7.5°	998.3	992.6	981.9	989.7	987.7
10°	987.7	980.9	969.4	977.1	974.2
12.5°	973.2	967.4	955.9	960.6	958.7
15°	956.7	951.1	938.4	942.3	937.5
17.5°	936.4	930.7	918.1	922.9	918.1
20°	914.2	908.4	894.9	897.8	894.0
22.5°	892.1	883.4	870.7	870.7	868.7
25°	865.9	858.2	841.8	843.7	841.8
27.5°	836.9	830.1	817.6	814.8	809.9
30°	808.0	800.2	785.7	782.8	778.9
32.5°	777.1	771.3	755.8	749.9	746.1
35°	747.1	737.4	721.9	716.1	711.3
37.5°	713.3	704.6	689.1	682.3	677.4
40°	678.5	670.7	655.2	646.6	642.7
42.5°	644.6	636.9	621.5	611.7	606.0
45°	608.0	601.1	586.6	576.0	572.1
47.5°	572.1	565.4	549.9	539.2	533.5
50°	534.4	529.6	516.1	502.6	497.7
52.5°	497.7	490.9	478.5	467.8	461.0
55°	460.1	454.3	442.6	431.1	426.3
57.5°	422.3	417.5	404.9	393.3	389.4
60°	384.6	380.8	367.3	356.6	353.8
62.5°	347.9	341.1	331.5	321.8	318.0
65°	310.3	304.4	294.8	286.1	281.3
67.5°	271.6	266.7	258.0	251.3	247.5
70°	235.8	232.0	223.3	216.5	212.7
72.5°	199.1	195.2	190.4	183.7	180.8
75°	162.3	160.5	155.6	149.8	151.8
77.5°	129.5	125.6	123.6	120.8	118.0
80°	96.7	95.7	93.7	90.8	88.9
82.5°	65.7	65.7	64.8	60.9	60.9
85°	39.6	38.7	37.7	34.8	33.8
87.5°	17.4	15.5	13.5	10.7	9.6
90°	1.5	17.7	48.3	45.3	46.8
92.5°	30.6	41.4	42.9	44.3	44.3
95°	71.9	85.7	88.2	88.2	85.7
97.5°	119.7	132.5	137.9	137.9	137.9
100°	174.9	186.1	190.1	190.1	188.6
102.5°	233.0	241.3	246.8	248.2	246.8
105°	296.5	300.5	303.4	305.9	305.9
107.5°	359.6	365.5	365.5	366.4	359.6
110°	420.7	428.5	428.5	428.5	424.6

TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	486.6	495.0	493.5	489.6	486.6
115°	551.6	559.6	557.1	555.6	551.6
117.5°	616.2	627.1	620.1	616.2	612.3
120°	681.2	692.1	681.2	681.2	676.7
122.5°	740.3	754.1	747.2	743.3	740.3
125°	802.4	814.7	810.7	806.3	804.9
127.5°	863.0	878.2	872.8	866.9	863.0
130°	919.6	937.4	934.9	931.9	926.5
132.5°	983.2	996.9	997.9	991.0	987.0
135°	1037.8	1053.1	1056.0	1054.6	1050.6
137.5°	1098.9	1111.2	1113.7	1112.7	1106.8
140°	1152.6	1164.9	1171.8	1171.8	1166.4
142.5°	1207.7	1220.0	1224.0	1225.5	1220.0
145°	1260.0	1269.8	1277.7	1279.2	1273.8
147.5°	1306.7	1319.0	1325.0	1327.4	1322.0
150°	1355.0	1363.4	1368.8	1373.2	1368.8
152.5°	1397.8	1406.3	1413.2	1418.6	1413.2
155°	1440.7	1444.7	1449.1	1456.0	1451.6
157.5°	1477.6	1480.7	1483.1	1493.0	1486.1
160°	1510.7	1513.6	1515.1	1523.4	1517.6
162.5°	1541.2	1541.2	1542.6	1552.0	1545.1
165°	1567.3	1565.8	1565.8	1575.7	1568.8
167.5°	1591.0	1586.6	1586.6	1596.4	1589.5
170°	1608.7	1604.7	1603.3	1613.1	1604.7
172.5°	1621.0	1617.0	1615.6	1625.4	1617.0
175°	1630.8	1626.9	1623.9	1633.8	1625.4
177.5°	1636.2	1632.4	1629.4	1637.7	1629.4
180°	1633.8	1633.8	1633.8	1633.8	1633.8

TEST NUMBER: P918898

CATALOG NUMBER: DFN2DIP-HX3F0-030D060US935-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	6.29	7.04	7.36	8.11	9.57	5.86	6.61	6.93	7.68	9.14
	3H	7.94	8.61	9.01	9.69	11.16	7.47	8.14	8.55	9.22	10.69
	4H	8.51	9.15	9.60	10.23	11.71	8.05	8.68	9.13	9.76	11.25
	6H	8.90	9.49	10.00	10.57	12.07	8.43	9.02	9.53	10.10	11.60
	8H	9.00	9.56	10.10	10.66	12.15	8.53	9.09	9.63	10.19	11.68
	12H	9.04	9.57	10.15	10.66	12.18	8.57	9.10	9.67	10.19	11.70
4H	2H	6.74	7.37	7.83	8.45	9.94	6.39	7.03	7.49	8.11	9.59
	3H	8.58	9.11	9.69	10.22	11.72	8.19	8.72	9.30	9.83	11.33
	4H	9.29	9.77	10.40	10.87	12.39	8.89	9.37	9.99	10.47	11.99
	6H	9.79	10.21	10.90	11.33	12.84	9.38	9.80	10.50	10.92	12.43
	8H	9.93	10.32	11.05	11.43	12.96	9.53	9.92	10.64	11.03	12.55
	12H	10.00	10.35	11.13	11.47	13.01	9.58	9.93	10.71	11.06	12.59
8H	4H	9.47	9.86	10.59	10.97	12.50	9.11	9.50	10.23	10.62	12.14
	6H	10.09	10.41	11.23	11.57	13.09	9.73	10.05	10.87	11.21	12.73
	8H	10.30	10.59	11.45	11.72	13.26	9.94	10.22	11.08	11.36	12.90
	12H	10.42	10.67	11.57	11.80	13.38	10.05	10.29	11.19	11.43	13.00
12H	4H	9.45	9.80	10.58	10.93	12.46	9.10	9.46	10.23	10.58	12.11
	6H	10.12	10.40	11.26	11.53	13.08	9.77	10.05	10.91	11.19	12.73
	8H	10.35	10.59	11.49	11.73	13.31	9.99	10.24	11.14	11.37	12.95

END OF REPORT