

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: P918907

Luminaire Tested: DFN2DIP-HX3F0-030D080US935-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918907
REPORT IS A COMBINATION OF REPORTS P899272 AND P896089
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-030D080US935-RLLFLL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

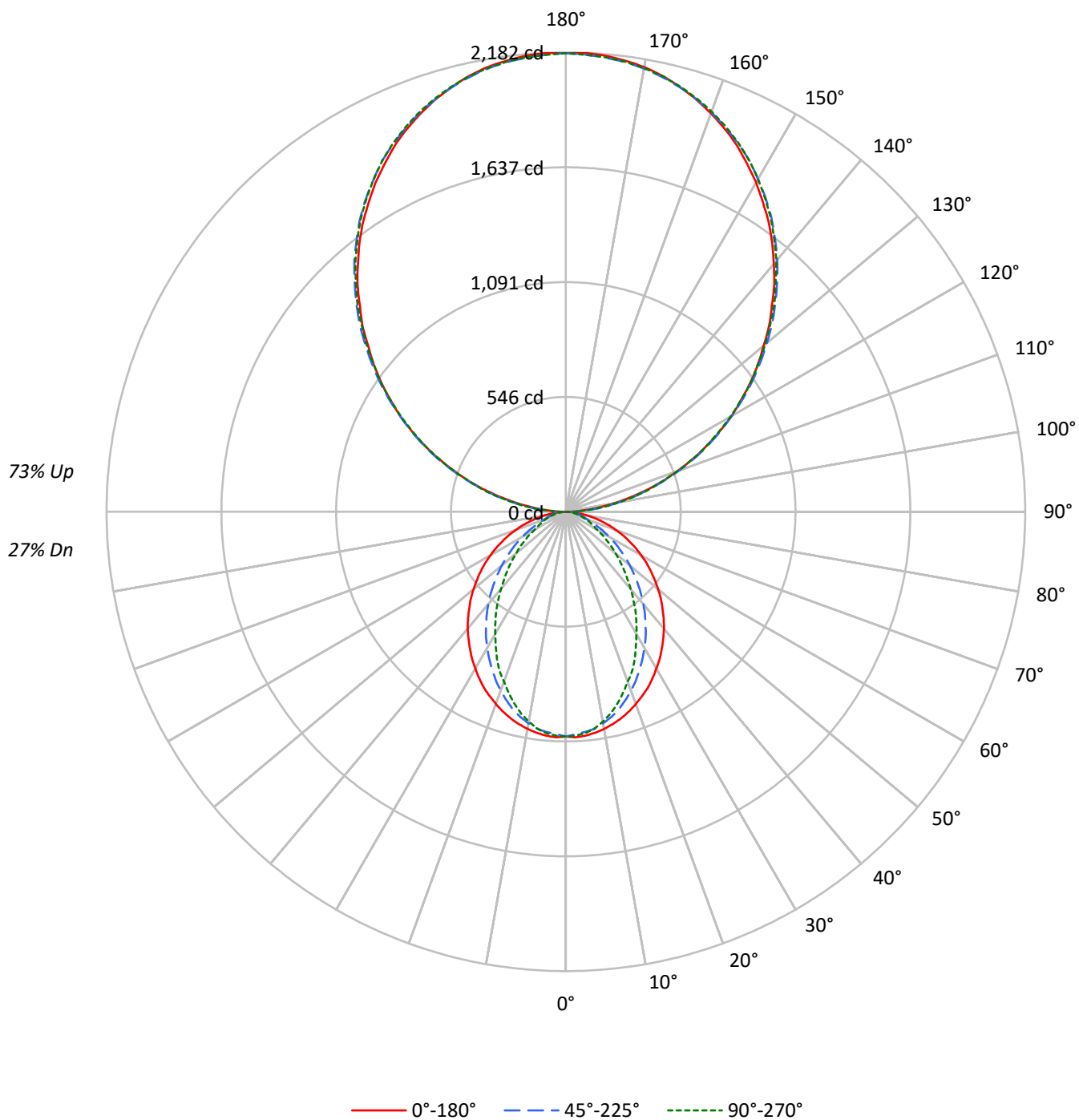
Lumens per Lamp: N/A
Luminaire Lumens: 8291.4 lumens
Efficiency: N/A
Efficacy: 97.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 85
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: P918907

CATALOG NUMBER: DFN2DIP-HX3F0-030D080US935-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P918907

CATALOG NUMBER: DFN2DIP-HX3F0-030D080US935-RLFL

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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35
1	93	89	85	82	83	79	76	74	62	60	58	46	44	43	31	30	30
2	85	78	72	67	75	70	65	61	54	51	48	40	38	37	27	26	25
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22
4	71	61	53	48	63	54	48	43	43	38	35	32	29	27	22	20	19
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17
6	60	48	41	35	53	44	37	32	35	30	26	26	23	20	18	16	15
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12
9	48	36	29	24	42	33	26	22	26	21	18	20	17	14	14	12	11
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1237	1237	1237
5°	1238	1216	1224
10°	1225	1191	1184
15°	1208	1151	1121
20°	1185	1096	1045
25°	1161	1035	972
30°	1130	971	879
35°	1100	904	797
40°	1068	834	704
45°	1032	756	619
50°	995	678	536
55°	955	594	457
60°	910	507	376
65°	857	419	337
70°	794	336	304
75°	714	295	275
80°	599	244	236
85°	409	159	173

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2050 cd/sqm

TEST NUMBER: P918907

CATALOG NUMBER: DFN2DIP-HX3F0-030D080US935-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.1	1.2
10°-20°	274.7	3.3
20°-30°	385.6	4.7
30°-40°	420.3	5.1
40°-50°	386.3	4.7
50°-60°	303.4	3.7
60°-70°	197.5	2.4
70°-80°	101.7	1.2
80°-90°	32.1	0.4
90°-100°	134.8	1.6
100°-110°	428.3	5.2
110°-120°	733.0	8.8
120°-130°	964.0	11.6
130°-140°	1082.0	13.0
140°-150°	1061.0	12.8
150°-160°	890.1	10.7
160°-170°	590.3	7.1
170°-180°	206.3	2.5
0°-30°	760.3	9.2
0°-40°	1180.7	14.2
0°-60°	1870.4	22.6
0°-90°	2201.7	26.6
90°-120°	1296.1	15.6
90°-150°	4403.1	53.1
90°-180°	6090.0	73.4
0°-180°	8291.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1068	1063	1050	1059	1056	101
15°	1015	1005	972	954	944	286
25°	922	891	827	787	773	424
35°	794	745	660	599	578	497
45°	649	584	483	414	391	501
55°	494	418	314	256	238	441
65°	333	255	168	135	132	330
75°	178	110	77	70	70	188
85°	42	21	18	18	18	48
90°	2	24	64	60	62	8
95°	96	114	118	118	114	107
105°	395	401	405	408	408	417
115°	736	746	743	741	736	728
125°	1070	1086	1081	1075	1073	956
135°	1384	1404	1408	1406	1401	1070
145°	1680	1693	1704	1706	1698	1050
155°	1921	1926	1932	1941	1935	884
165°	2090	2088	2088	2101	2092	590
175°	2174	2169	2165	2178	2167	207
180°	2178	2178	2178	2178	2178	

TEST NUMBER: P918907

CATALOG NUMBER: DFN2DIP-HX3F0-030D080US935-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1067.6	1067.6	1067.6	1067.6	1067.6
2.5°	1072.4	1067.6	1056.9	1066.6	1064.7
5°	1067.6	1062.7	1050.2	1058.9	1055.9
7.5°	1058.9	1053.1	1039.6	1043.4	1038.5
10°	1047.2	1040.5	1021.2	1018.2	1012.5
12.5°	1032.8	1024.1	998.0	992.2	981.5
15°	1015.4	1004.7	971.9	953.6	943.9
17.5°	995.1	979.6	939.0	917.8	902.3
20°	971.9	952.5	904.2	880.2	858.8
22.5°	946.8	924.5	868.5	835.7	821.2
25°	921.7	890.7	827.0	787.4	772.8
27.5°	891.7	858.8	788.3	743.0	720.7
30°	859.9	823.1	745.8	696.6	670.5
32.5°	828.9	784.5	705.3	647.3	623.1
35°	794.2	744.8	659.9	599.0	577.7
37.5°	760.3	707.1	617.3	550.6	526.6
40°	724.6	666.7	572.9	504.3	479.2
42.5°	687.9	626.1	528.5	456.9	432.8
45°	649.3	584.4	483.1	414.4	391.2
47.5°	612.5	544.0	439.6	370.9	349.7
50°	572.0	503.3	397.1	330.4	310.1
52.5°	532.3	459.9	356.5	292.7	274.4
55°	493.6	418.3	313.9	256.1	237.7
57.5°	454.1	376.8	276.4	222.2	206.7
60°	413.5	336.2	236.7	187.4	172.0
62.5°	373.9	296.6	202.9	156.5	148.9
65°	333.3	255.0	168.1	135.3	132.3
67.5°	294.7	216.4	135.3	118.8	115.9
70°	254.1	178.7	112.0	102.4	98.5
72.5°	215.4	143.9	93.7	86.0	84.0
75°	177.7	110.1	77.3	70.5	69.6
77.5°	140.1	78.2	60.9	57.0	55.0
80°	105.3	56.1	46.3	42.5	42.5
82.5°	73.4	37.7	31.9	30.0	30.0
85°	41.5	21.2	18.3	18.3	18.3
87.5°	15.5	7.7	7.7	6.8	6.8
90°	2.0	23.7	64.4	60.4	62.4
92.5°	40.7	55.2	57.2	59.1	59.1
95°	95.9	114.3	117.5	117.5	114.3
97.5°	159.6	176.7	183.9	183.9	183.9
100°	233.2	248.2	253.5	253.5	251.5
102.5°	310.6	321.8	329.0	331.0	329.0
105°	395.4	400.6	404.6	407.9	407.9
107.5°	479.4	487.3	487.3	488.6	479.4
110°	560.9	571.4	571.4	571.4	566.1

TEST NUMBER: P918907

CATALOG NUMBER: DFN2DIP-HX3F0-030D080US935-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	648.8	660.0	658.1	652.8	648.8
115°	735.6	746.1	742.8	740.8	735.6
117.5°	821.6	836.0	826.8	821.6	816.3
120°	908.3	922.7	908.3	908.3	902.3
122.5°	987.0	1005.5	996.3	991.0	987.0
125°	1069.8	1086.2	1081.0	1075.0	1073.1
127.5°	1150.6	1171.0	1163.7	1155.9	1150.6
130°	1226.1	1249.7	1246.5	1242.6	1235.4
132.5°	1310.9	1329.2	1330.6	1321.4	1316.1
135°	1383.7	1404.1	1408.1	1406.1	1400.8
137.5°	1465.2	1481.6	1484.9	1483.6	1475.7
140°	1536.8	1553.2	1562.4	1562.4	1555.1
142.5°	1610.3	1626.8	1632.0	1634.0	1626.8
145°	1680.0	1693.1	1703.6	1705.6	1698.3
147.5°	1742.3	1758.8	1766.6	1770.0	1762.7
150°	1806.7	1817.8	1825.1	1831.0	1825.1
152.5°	1863.8	1875.0	1884.2	1891.4	1884.2
155°	1921.0	1926.2	1932.2	1941.3	1935.4
157.5°	1970.2	1974.2	1977.5	1990.5	1981.4
160°	2014.2	2018.2	2020.2	2031.3	2023.4
162.5°	2054.9	2054.9	2056.9	2069.4	2060.2
165°	2089.7	2087.7	2087.7	2100.9	2091.7
167.5°	2121.2	2115.4	2115.4	2128.5	2119.3
170°	2144.9	2139.7	2137.7	2150.9	2139.7
172.5°	2161.4	2156.1	2154.1	2167.2	2156.1
175°	2174.5	2169.2	2165.2	2178.4	2167.2
177.5°	2181.7	2176.4	2172.5	2183.7	2172.5
180°	2178.4	2178.4	2178.4	2178.4	2178.4

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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	5.11	5.78	6.25	6.90	8.48	1.08	1.75	2.22	2.88	4.45
	3H	6.77	7.36	7.91	8.50	10.09	2.26	2.85	3.40	3.99	5.58
	4H	7.36	7.93	8.52	9.06	10.66	2.69	3.26	3.85	4.40	5.99
	6H	7.77	8.29	8.93	9.43	11.03	3.00	3.53	4.17	4.66	6.27
	8H	7.89	8.38	9.05	9.54	11.13	3.09	3.58	4.25	4.74	6.33
	12H	7.94	8.41	9.11	9.56	11.18	3.12	3.60	4.29	4.74	6.36
4H	2H	5.10	5.67	6.27	6.81	8.40	1.65	2.22	2.82	3.36	4.95
	3H	6.91	7.38	8.08	8.55	10.15	2.98	3.46	4.15	4.62	6.22
	4H	7.59	8.03	8.76	9.18	10.80	3.52	3.96	4.69	5.11	6.73
	6H	8.09	8.46	9.27	9.63	11.25	3.93	4.30	5.10	5.47	7.09
	8H	8.26	8.60	9.43	9.77	11.40	4.05	4.40	5.23	5.56	7.19
	12H	8.34	8.66	9.53	9.83	11.47	4.11	4.42	5.30	5.60	7.23
8H	4H	7.55	7.89	8.72	9.06	10.69	3.79	4.13	4.96	5.30	6.93
	6H	8.10	8.38	9.29	9.59	11.22	4.29	4.58	5.49	5.78	7.41
	8H	8.31	8.56	9.51	9.74	11.39	4.48	4.73	5.68	5.91	7.56
	12H	8.43	8.65	9.64	9.83	11.51	4.59	4.81	5.79	5.99	7.67
12H	4H	7.49	7.80	8.68	8.98	10.61	3.78	4.10	4.97	5.27	6.91
	6H	8.07	8.32	9.27	9.50	11.15	4.34	4.59	5.54	5.77	7.42
	8H	8.28	8.50	9.48	9.68	11.36	4.54	4.76	5.74	5.94	7.62

END OF REPORT