

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: P913439

Luminaire Tested: DFN2DIP-HX3F0-030D050US927-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913439
REPORT IS A COMBINATION OF REPORTS P900749 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-030D050US927-FLLONL
Description: 3 foot, Hexagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

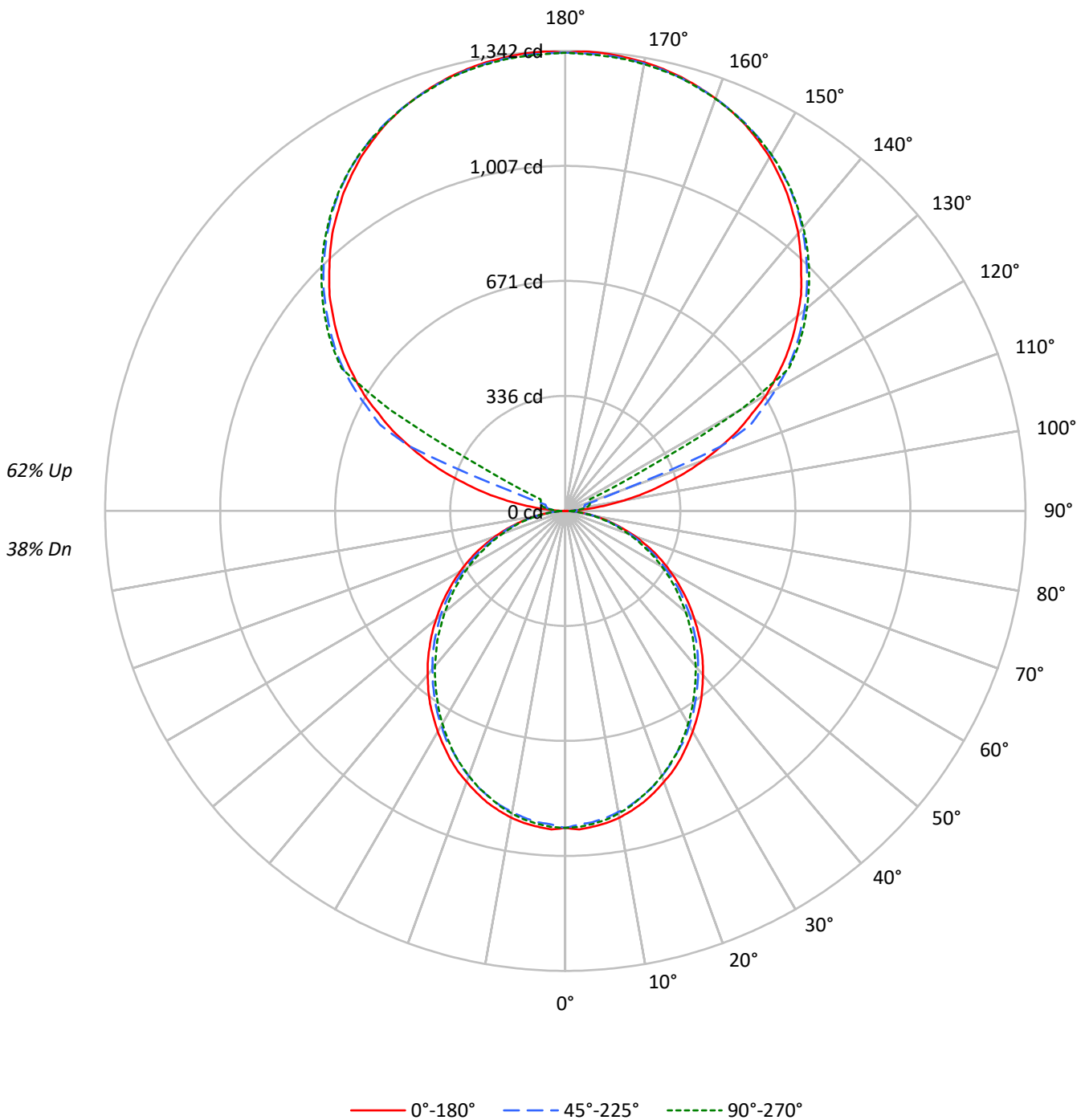
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6274.1 lumens
Efficiency: N/A
Efficacy: 104.0 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): 60.3
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: P913439
CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

Luminous Intensity Polar Plot





TEST NUMBER: P913439

CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	38	38	38	38
1	95	91	87	83	86	82	79	76	67	65	63	53	51	50	39	39	38	32	32	32	32
2	86	79	73	68	78	72	67	63	59	55	52	46	44	42	35	33	32	26	26	26	26
3	79	70	62	57	71	63	57	52	52	47	44	41	38	35	31	29	27	22	22	22	22
4	72	62	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23	19	19	19	19
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	22	20	17	17	17	17
6	61	49	41	35	55	45	38	33	37	32	28	29	26	23	22	20	18	15	15	15	15
7	56	44	36	31	51	40	34	29	33	28	24	27	23	20	20	18	16	13	13	13	13
8	52	40	32	27	47	37	30	25	30	25	22	24	21	18	19	16	14	12	12	12	12
9	48	36	29	24	44	33	27	23	28	23	19	22	19	16	17	15	13	11	11	11	11
10	45	33	26	22	41	31	24	20	26	21	17	21	17	14	16	13	12	10	10	10	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1071	1071	1071
5°	1072	1055	1063
10°	1063	1041	1048
15°	1047	1023	1025
20°	1025	998	1001
25°	1004	969	974
30°	977	942	939
35°	952	910	903
40°	920	877	869
45°	889	845	833
50°	855	811	792
55°	819	771	754
60°	779	724	711
65°	734	676	659
70°	678	617	604
75°	600	546	553
80°	506	455	455
85°	359	301	295

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 889 cd/sqm



TEST NUMBER: P913439

CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.0	1.4
10°-20°	244.9	3.9
20°-30°	359.9	5.7
30°-40°	418.0	6.7
40°-50°	417.5	6.7
50°-60°	364.0	5.8
60°-70°	269.1	4.3
70°-80°	152.3	2.4
80°-90°	42.5	0.7
90°-100°	44.1	0.7
100°-110°	164.3	2.6
110°-120°	435.8	6.9
120°-130°	722.8	11.5
130°-140°	767.8	12.2
140°-150°	713.6	11.4
150°-160°	573.7	9.1
160°-170°	369.7	5.9
170°-180°	127.2	2.0
0°-30°	691.8	11.0
0°-40°	1109.8	17.7
0°-60°	1891.3	30.1
0°-90°	2355.1	37.5
90°-120°	644.2	10.3
90°-150°	2848.4	45.4
90°-180°	3919.0	62.5
0°-180°	6274.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	921	911	918	917	88
15°	880	875	863	867	862	248
25°	797	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	286	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	41
90°	1	12	19	24	26	6
95°	63	31	38	43	42	74
105°	294	323	59	70	74	314
115°	556	573	597	149	79	548
125°	786	799	817	824	827	701
135°	973	989	997	1007	1005	752
145°	1129	1128	1144	1151	1146	706
155°	1243	1234	1246	1252	1244	573
165°	1310	1304	1307	1314	1307	370
175°	1340	1333	1335	1342	1332	127
180°	1337	1337	1337	1337	1337	



TEST NUMBER: P913439

CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	924.7	924.7	924.7	924.7	924.7
2.5°	930.1	925.7	915.8	924.7	923.0
5°	924.7	921.2	911.4	918.5	916.8
7.5°	918.5	913.2	903.4	910.6	908.8
10°	908.8	902.5	891.9	899.0	896.4
12.5°	895.4	890.1	879.5	883.8	882.1
15°	880.3	875.0	863.4	867.0	862.5
17.5°	861.6	856.3	844.7	849.1	844.7
20°	841.1	835.8	823.4	826.0	822.5
22.5°	820.8	812.8	801.1	801.1	799.3
25°	796.7	789.6	774.5	776.3	774.5
27.5°	770.0	763.7	752.3	749.6	745.2
30°	743.4	736.3	722.9	720.3	716.7
32.5°	714.9	709.6	695.4	690.0	686.4
35°	687.4	678.5	664.2	658.9	654.4
37.5°	656.2	648.2	634.0	627.7	623.3
40°	624.2	617.1	602.8	594.9	591.4
42.5°	593.1	586.0	571.8	562.8	557.5
45°	559.4	553.1	539.7	530.0	526.4
47.5°	526.4	520.2	506.0	496.1	490.8
50°	491.7	487.3	474.8	462.4	458.0
52.5°	458.0	451.7	440.2	430.4	424.1
55°	423.3	418.0	407.3	396.6	392.2
57.5°	388.6	384.1	372.6	361.9	358.3
60°	353.9	350.4	337.9	328.1	325.5
62.5°	320.1	313.9	305.0	296.1	292.6
65°	285.5	280.1	271.2	263.2	258.8
67.5°	249.9	245.4	237.4	231.2	227.7
70°	217.0	213.4	205.4	199.2	195.7
72.5°	183.2	179.6	175.2	169.0	166.4
75°	149.3	147.7	143.1	137.8	139.7
77.5°	119.1	115.6	113.8	111.1	108.5
80°	89.0	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.7	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
90°	1.0	11.6	19.3	24.2	26.1
92.5°	24.2	20.4	23.2	25.2	26.1
95°	62.8	30.9	37.7	42.6	41.6
97.5°	113.1	33.9	49.3	52.3	53.2
100°	171.3	38.7	55.1	62.8	64.8
102.5°	235.0	233.1	57.1	67.7	70.7
105°	294.1	323.1	59.0	69.6	73.5
107.5°	362.7	386.8	61.0	71.5	75.5
110°	428.6	448.8	169.3	72.6	76.4



TEST NUMBER: P913439

CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	490.4	507.8	491.4	74.5	77.4
115°	556.2	572.6	596.8	149.0	79.4
117.5°	613.2	632.6	649.1	510.6	257.3
120°	677.1	691.6	709.0	720.6	590.0
122.5°	731.2	746.7	766.1	771.9	772.9
125°	786.3	799.0	817.4	824.1	827.0
127.5°	836.6	850.2	864.8	874.4	875.4
130°	884.1	899.6	910.1	920.8	920.0
132.5°	932.5	945.1	955.6	964.4	963.5
135°	973.1	988.6	997.2	1007.0	1005.0
137.5°	1015.6	1027.2	1037.0	1046.6	1043.8
140°	1057.2	1065.0	1075.5	1084.3	1079.5
142.5°	1092.1	1098.9	1111.4	1119.1	1114.3
145°	1128.9	1127.8	1144.2	1151.0	1146.2
147.5°	1160.7	1157.8	1174.3	1179.1	1175.3
150°	1191.7	1184.9	1200.4	1206.2	1201.3
152.5°	1217.7	1210.1	1224.6	1230.4	1223.6
155°	1242.9	1234.3	1245.9	1251.6	1244.0
157.5°	1263.2	1255.5	1264.2	1271.1	1263.2
160°	1280.7	1274.9	1280.7	1286.4	1279.7
162.5°	1296.1	1290.4	1295.1	1301.9	1293.2
165°	1309.6	1303.9	1306.8	1313.5	1306.8
167.5°	1320.3	1314.5	1317.5	1324.2	1315.5
170°	1329.0	1323.2	1325.2	1331.9	1323.2
172.5°	1334.8	1329.0	1331.0	1337.8	1329.0
175°	1339.7	1332.8	1334.8	1341.6	1331.9
177.5°	1341.6	1334.8	1335.9	1342.6	1333.9
180°	1336.7	1336.7	1336.7	1336.7	1336.7



TEST NUMBER: P913439
 CATALOG NUMBER: DFN2DIP-HX3F0-030D050US927-FLLONL

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	6.19	6.95	7.25	8.01	9.45	5.76	6.52	6.82	7.58	9.02
	3H	7.84	8.52	8.90	9.59	11.04	7.37	8.05	8.43	9.12	10.58
	4H	8.41	9.06	9.49	10.13	11.59	7.95	8.59	9.02	9.66	11.13
	6H	8.80	9.40	9.89	10.47	11.95	8.33	8.93	9.42	10.00	11.48
	8H	8.90	9.47	9.99	10.56	12.03	8.43	9.00	9.52	10.09	11.56
	12H	8.94	9.48	10.04	10.56	12.06	8.47	9.01	9.57	10.09	11.58
4H	2H	6.64	7.28	7.72	8.35	9.82	6.30	6.94	7.38	8.01	9.48
	3H	8.49	9.02	9.58	10.12	11.60	8.10	8.63	9.19	9.73	11.21
	4H	9.19	9.68	10.29	10.77	12.27	8.79	9.28	9.89	10.37	11.87
	6H	9.69	10.12	10.80	11.23	12.72	9.29	9.71	10.39	10.82	12.31
	8H	9.83	10.23	10.94	11.33	12.84	9.43	9.82	10.53	10.93	12.43
	12H	9.90	10.26	11.02	11.37	12.89	9.48	9.84	10.61	10.96	12.47
8H	4H	9.37	9.77	10.48	10.87	12.38	9.02	9.41	10.12	10.52	12.02
	6H	9.99	10.32	11.12	11.47	12.97	9.63	9.96	10.76	11.11	12.61
	8H	10.21	10.49	11.34	11.62	13.14	9.84	10.13	10.98	11.26	12.78
	12H	10.33	10.58	11.47	11.70	13.26	9.95	10.20	11.09	11.32	12.88
12H	4H	9.35	9.71	10.48	10.83	12.34	9.01	9.36	10.13	10.48	11.99
	6H	10.02	10.31	11.15	11.43	12.96	9.67	9.96	10.81	11.09	12.61
	8H	10.25	10.50	11.39	11.63	13.19	9.90	10.15	11.04	11.27	12.83