

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: P913364

Luminaire Tested: DFN2DIP-HX2F0-030D050US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913364
REPORT IS A COMBINATION OF REPORTS P899184 AND P896039
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D050US927-RLLFLL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

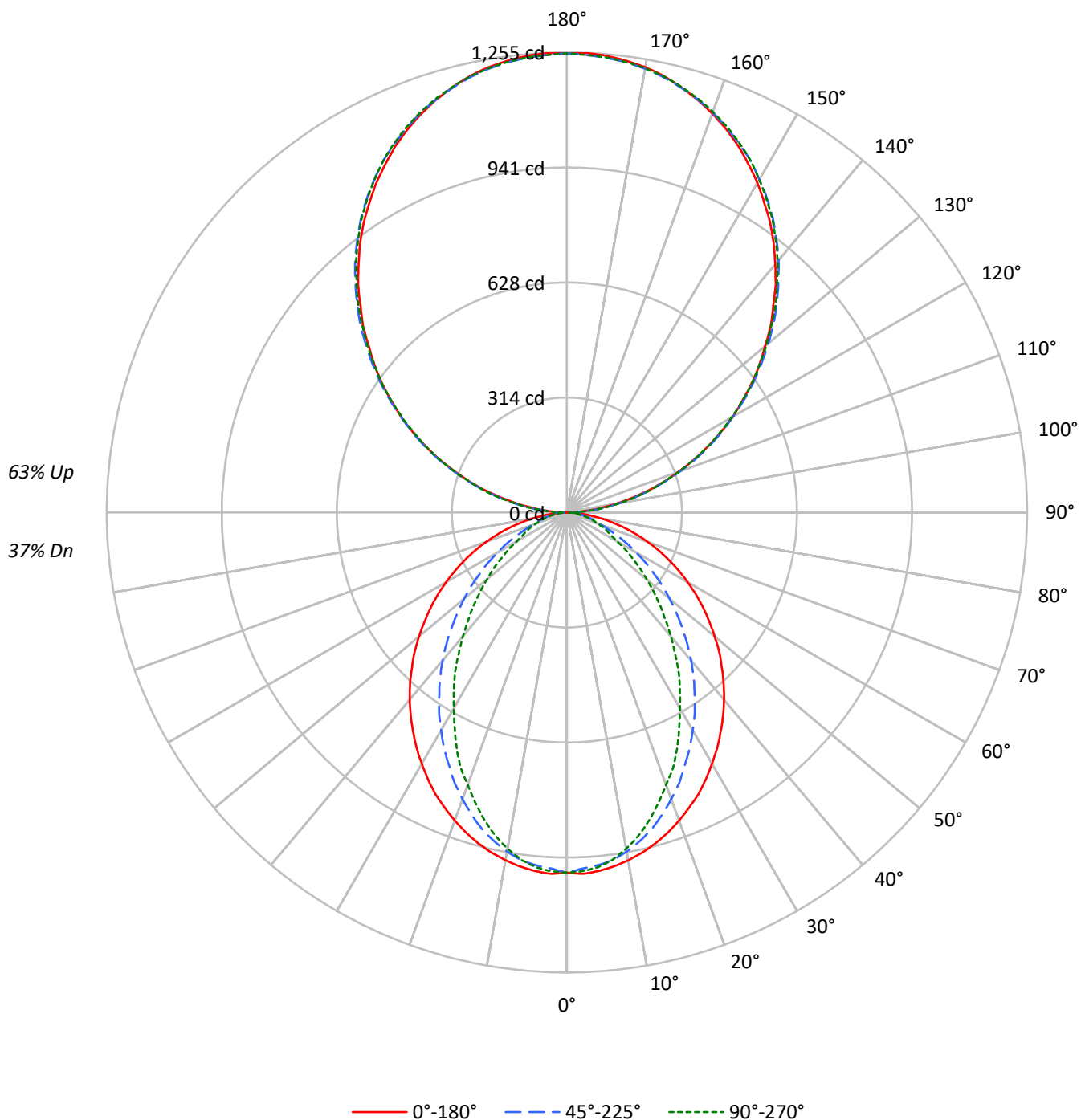
Lumens per Lamp: N/A
Luminaire Lumens: 5525.5 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 63.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P913364

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US927-RLLFLL

Luminous Intensity Polar Plot



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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	44	44	44
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	39	38	38
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32
3	79	70	64	58	72	64	58	53	52	48	45	41	39	36	31	29	28
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	26	23	21
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15
9	49	38	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14
10	46	34	27	23	42	32	25	21	26	22	18	22	18	16	17	14	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2314	2314	2314
5°	2314	2272	2288
10°	2288	2222	2209
15°	2252	2143	2090
20°	2207	2037	1946
25°	2161	1919	1806
30°	2100	1798	1631
35°	2040	1669	1477
40°	1978	1536	1301
45°	1908	1389	1142
50°	1834	1241	987
55°	1757	1084	838
60°	1667	921	686
65°	1564	755	613
70°	1439	601	548
75°	1280	519	491
80°	1054	420	413
85°	690	260	290

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1908 cd/sqm

TEST NUMBER: P913364

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US927-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	1.7
10°-20°	252.7	4.6
20°-30°	354.8	6.4
30°-40°	386.8	7.0
40°-50°	355.5	6.4
50°-60°	279.2	5.1
60°-70°	181.7	3.3
70°-80°	93.5	1.7
80°-90°	27.5	0.5
90°-100°	77.5	1.4
100°-110°	246.3	4.5
110°-120°	421.5	7.6
120°-130°	554.3	10.0
130°-140°	622.2	11.3
140°-150°	610.1	11.0
150°-160°	511.8	9.3
160°-170°	339.4	6.1
170°-180°	118.6	2.1
0°-30°	699.6	12.7
0°-40°	1086.3	19.7
0°-60°	1720.9	31.1
0°-90°	2023.6	36.6
90°-120°	745.3	13.5
90°-150°	2532.0	45.8
90°-180°	3502.0	63.4
0°-180°	5525.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	14	37	35	36	5
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	

TEST NUMBER: P913364

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US927-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5

TEST NUMBER: P913364

CATALOG NUMBER: DFN2DIP-HX2F0-030D050US927-RLFL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7

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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	8.53	9.26	9.60	10.33	11.78	4.51	5.24	5.58	6.31	7.76
	3H	10.17	10.83	11.25	11.91	13.38	5.68	6.33	6.76	7.41	8.88
	4H	10.76	11.38	11.85	12.46	13.94	6.11	6.73	7.20	7.81	9.28
	6H	11.16	11.73	12.26	12.81	14.30	6.41	6.98	7.51	8.06	9.55
	8H	11.27	11.81	12.37	12.91	14.39	6.49	7.03	7.59	8.13	9.61
	12H	11.32	11.83	12.43	12.92	14.43	6.52	7.04	7.63	8.13	9.64
4H	2H	8.53	9.15	9.63	10.23	11.71	5.08	5.70	6.18	6.78	8.26
	3H	10.32	10.84	11.43	11.94	13.43	6.40	6.92	7.50	8.02	9.51
	4H	10.99	11.47	12.10	12.56	14.07	6.93	7.40	8.04	8.50	10.01
	6H	11.48	11.88	12.59	13.00	14.50	7.33	7.73	8.44	8.85	10.35
	8H	11.64	12.02	12.75	13.13	14.64	7.44	7.82	8.56	8.93	10.45
	12H	11.71	12.06	12.85	13.18	14.70	7.50	7.84	8.63	8.96	10.48
8H	4H	10.95	11.33	12.06	12.44	13.96	7.19	7.57	8.30	8.68	10.20
	6H	11.48	11.80	12.62	12.95	14.46	7.68	7.99	8.82	9.14	10.66
	8H	11.68	11.96	12.83	13.09	14.62	7.86	8.13	9.00	9.26	10.80
	12H	11.80	12.04	12.95	13.17	14.74	7.96	8.20	9.10	9.33	10.90
12H	4H	10.89	11.24	12.03	12.36	13.88	7.19	7.53	8.32	8.65	10.17
	6H	11.46	11.73	12.60	12.86	14.40	7.72	8.00	8.86	9.13	10.66
	8H	11.66	11.90	12.80	13.02	14.60	7.91	8.15	9.06	9.28	10.85