

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: P908001

Luminaire Tested: DFN2DIP-HX3F0-040D030US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P908001
REPORT IS A COMBINATION OF REPORTS P900724 AND P897645
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX3F0-040D030US840-RLLONL
Description: 3 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

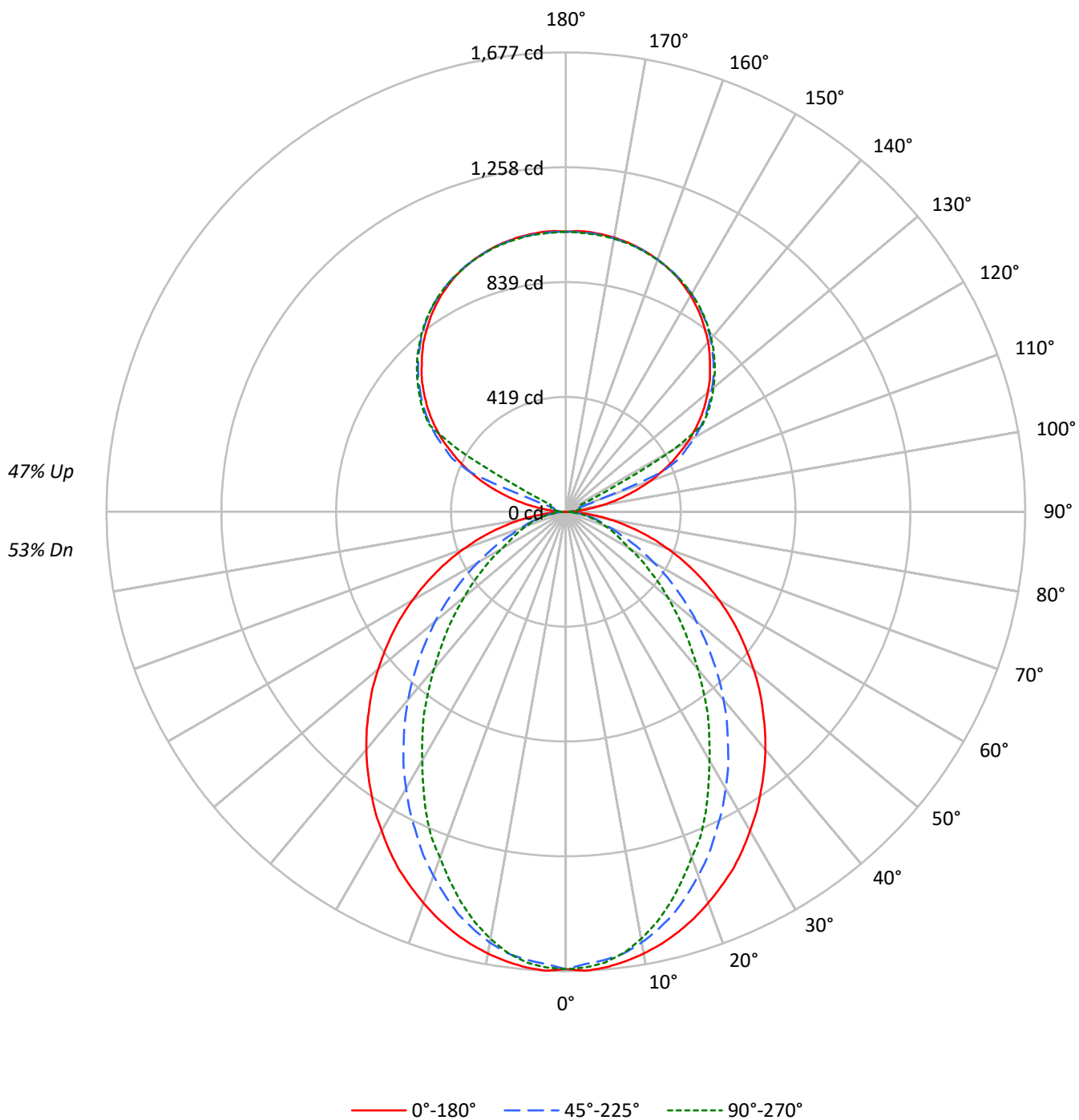
Lumens per Lamp: N/A
Luminaire Lumens: 6432.9 lumens
Efficiency: N/A
Efficacy: 112.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.84' x L: 3.28' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 57.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P908001

CATALOG NUMBER: DFN2DIP-HX3F0-040D030US840-RLLONL

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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59
1	99	95	91	88	92	88	85	82	76	73	71	64	62	61	53	52	51
2	91	83	78	73	84	78	73	68	67	63	60	57	54	52	47	45	44
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	42	40	38
4	76	66	58	52	70	61	55	49	53	48	44	45	42	38	38	35	33
5	70	59	51	45	65	55	48	43	48	42	38	41	37	34	35	32	29
6	65	53	45	39	60	50	43	37	43	38	34	37	33	30	32	28	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23
8	56	44	36	31	52	41	34	29	36	31	27	31	27	24	27	24	21
9	52	40	33	28	48	38	31	26	33	28	24	29	25	22	25	22	19
10	49	37	30	25	45	35	28	24	31	25	22	27	23	20	23	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1934	1934	1934
5°	1936	1902	1914
10°	1916	1863	1851
15°	1889	1800	1754
20°	1853	1714	1635
25°	1816	1618	1520
30°	1767	1519	1374
35°	1720	1413	1247
40°	1671	1304	1101
45°	1614	1183	968
50°	1555	1060	839
55°	1494	930	715
60°	1423	793	587
65°	1341	655	527
70°	1242	526	476
75°	1117	461	431
80°	936	382	370
85°	639	249	272

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1614 cd/sqm

TEST NUMBER: P908001

CATALOG NUMBER: DFN2DIP-HX3F0-040D030US840-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.5	2.4
10°-20°	429.5	6.7
20°-30°	603.0	9.4
30°-40°	657.4	10.2
40°-50°	604.2	9.4
50°-60°	474.5	7.4
60°-70°	308.9	4.8
70°-80°	159.0	2.5
80°-90°	42.4	0.7
90°-100°	33.7	0.5
100°-110°	125.7	2.0
110°-120°	333.3	5.2
120°-130°	552.9	8.6
130°-140°	587.3	9.1
140°-150°	545.8	8.5
150°-160°	438.8	6.8
160°-170°	282.8	4.4
170°-180°	97.3	1.5
0°-30°	1189.0	18.5
0°-40°	1846.4	28.7
0°-60°	2925.1	45.5
0°-90°	3435.3	53.4
90°-120°	492.7	7.7
90°-150°	2178.7	33.9
90°-180°	2998.0	46.6
0°-180°	6432.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1670	1670	1670	1670	1670	
5°	1670	1662	1642	1656	1651	158
15°	1588	1571	1520	1491	1476	447
25°	1441	1393	1293	1231	1209	663
35°	1242	1165	1032	937	903	777
45°	1015	914	756	648	612	784
55°	772	654	491	400	372	690
65°	521	399	263	212	207	517
75°	278	172	121	110	109	294
85°	65	33	29	29	29	75
90°	1	9	15	19	20	6
95°	48	24	29	33	32	57
105°	225	247	45	53	56	240
115°	425	438	456	114	61	419
125°	602	611	625	630	633	536
135°	744	756	763	770	769	575
145°	863	863	875	880	877	540
155°	951	944	953	957	952	438
165°	1002	997	1000	1005	1000	283
175°	1025	1020	1021	1026	1019	98
180°	1022	1022	1022	1022	1022	

TEST NUMBER: P908001

CATALOG NUMBER: DFN2DIP-HX3F0-040D030US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1669.5	1669.5	1669.5	1669.5	1669.5
2.5°	1677.1	1669.5	1652.8	1668.1	1665.0
5°	1669.5	1661.9	1642.2	1655.9	1651.4
7.5°	1655.9	1646.9	1625.8	1631.6	1624.2
10°	1637.8	1627.2	1597.0	1592.4	1583.5
12.5°	1615.2	1601.5	1560.6	1551.7	1535.0
15°	1587.9	1571.2	1519.9	1491.3	1476.2
17.5°	1556.2	1532.0	1468.4	1435.3	1411.1
20°	1519.9	1489.7	1414.1	1376.4	1343.1
22.5°	1480.7	1445.9	1358.2	1306.9	1284.3
25°	1441.4	1393.0	1293.2	1231.4	1208.6
27.5°	1394.6	1343.1	1232.8	1161.9	1127.0
30°	1344.7	1287.2	1166.3	1089.3	1048.5
32.5°	1296.4	1226.8	1103.0	1012.3	974.4
35°	1242.0	1164.9	1032.0	936.8	903.4
37.5°	1189.1	1105.9	965.4	861.1	823.4
40°	1133.2	1042.6	896.0	788.7	749.4
42.5°	1075.7	979.1	826.5	714.6	676.9
45°	1015.3	914.0	755.5	648.1	611.9
47.5°	958.0	850.7	687.5	580.2	546.9
50°	894.4	787.2	621.0	516.6	485.0
52.5°	832.4	719.1	557.5	457.8	429.1
55°	772.0	654.2	491.0	400.4	371.7
57.5°	710.1	589.3	432.1	347.5	323.4
60°	646.6	525.7	370.1	293.2	269.0
62.5°	584.8	463.9	317.2	244.8	232.8
65°	521.3	398.8	262.9	211.6	206.9
67.5°	460.9	338.4	211.6	185.8	181.3
70°	397.4	279.5	175.2	160.2	154.0
72.5°	337.0	225.1	146.5	134.5	131.5
75°	277.9	172.2	120.9	110.3	108.9
77.5°	219.1	122.3	95.2	89.2	86.0
80°	164.6	87.7	72.4	66.6	66.6
82.5°	114.8	59.0	49.9	46.8	46.8
85°	64.9	33.2	28.7	28.7	28.7
87.5°	24.2	12.0	12.0	10.6	10.6
90°	0.7	8.9	14.7	18.6	19.9
92.5°	18.6	15.6	17.8	19.3	19.9
95°	48.1	23.6	28.8	32.6	31.8
97.5°	86.5	26.0	37.7	40.0	40.7
100°	131.0	29.6	42.2	48.1	49.6
102.5°	179.8	178.3	43.6	51.7	54.0
105°	224.9	247.1	45.1	53.2	56.2
107.5°	277.4	295.9	46.7	54.7	57.8
110°	327.8	343.3	129.5	55.5	58.5

TEST NUMBER: P908001

CATALOG NUMBER: DFN2DIP-HX3F0-040D030US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	375.2	388.4	375.9	57.0	59.2
115°	425.4	438.0	456.5	113.9	60.7
117.5°	469.1	483.8	496.4	390.6	196.8
120°	517.9	529.0	542.3	551.2	451.3
122.5°	559.3	571.2	586.0	590.4	591.2
125°	601.5	611.1	625.2	630.4	632.6
127.5°	640.0	650.3	661.5	668.8	669.5
130°	676.2	688.1	696.2	704.3	703.7
132.5°	713.2	722.9	730.9	737.6	736.9
135°	744.3	756.2	762.8	770.2	768.7
137.5°	776.8	785.7	793.1	800.5	798.3
140°	808.6	814.6	822.6	829.3	825.7
142.5°	835.4	840.5	850.1	856.0	852.3
145°	863.4	862.6	875.3	880.4	876.7
147.5°	887.8	885.6	898.2	901.8	898.9
150°	911.5	906.4	918.2	922.5	918.9
152.5°	931.4	925.5	936.7	941.1	935.9
155°	950.7	944.1	952.9	957.4	951.5
157.5°	966.2	960.4	967.0	972.2	966.2
160°	979.6	975.1	979.6	984.0	978.8
162.5°	991.4	986.9	990.7	995.8	989.2
165°	1001.7	997.3	999.6	1004.7	999.6
167.5°	1009.9	1005.4	1007.6	1012.9	1006.2
170°	1016.5	1012.1	1013.6	1018.8	1012.1
172.5°	1021.0	1016.5	1018.0	1023.2	1016.5
175°	1024.6	1019.5	1021.0	1026.1	1018.8
177.5°	1026.1	1021.0	1021.8	1026.9	1020.3
180°	1022.5	1022.5	1022.5	1022.5	1022.5

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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	9.71	10.57	10.64	11.51	12.74	5.68	6.54	6.62	7.49	8.71
	3H	11.38	12.15	12.33	13.10	14.35	6.87	7.64	7.82	8.59	9.84
	4H	11.98	12.71	12.94	13.67	14.93	7.32	8.04	8.28	9.01	10.26
	6H	12.40	13.07	13.37	14.03	15.30	7.64	8.31	8.61	9.27	10.54
	8H	12.52	13.16	13.50	14.14	15.41	7.73	8.36	8.71	9.35	10.61
	12H	12.58	13.19	13.57	14.16	15.46	7.77	8.37	8.75	9.35	10.64
4H	2H	9.73	10.45	10.69	11.41	12.67	6.28	7.00	7.24	7.96	9.22
	3H	11.55	12.15	12.53	13.14	14.42	7.63	8.23	8.60	9.22	10.49
	4H	12.24	12.79	13.22	13.77	15.07	8.17	8.72	9.16	9.71	11.00
	6H	12.75	13.22	13.74	14.23	15.52	8.59	9.06	9.58	10.07	11.36
	8H	12.92	13.36	13.92	14.36	15.67	8.71	9.16	9.71	10.16	11.46
	12H	13.01	13.41	14.03	14.43	15.74	8.78	9.18	9.79	10.19	11.51
8H	4H	12.21	12.65	13.21	13.65	14.96	8.45	8.89	9.45	9.89	11.20
	6H	12.77	13.13	13.79	14.17	15.48	8.96	9.33	9.98	10.37	11.68
	8H	12.98	13.30	14.01	14.33	15.65	9.15	9.47	10.18	10.50	11.83
	12H	13.11	13.39	14.15	14.42	15.79	9.27	9.55	10.30	10.57	11.94
12H	4H	12.16	12.56	13.18	13.58	14.89	8.45	8.85	9.47	9.87	11.18
	6H	12.74	13.06	13.77	14.09	15.42	9.01	9.33	10.04	10.36	11.69
	8H	12.96	13.24	13.99	14.26	15.63	9.22	9.50	10.25	10.52	11.89

END OF REPORT