

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: P907897

Luminaire Tested: DFN2DIP-HX2F0-030D020US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907897
REPORT IS A COMBINATION OF REPORTS P900674 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D020US840-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

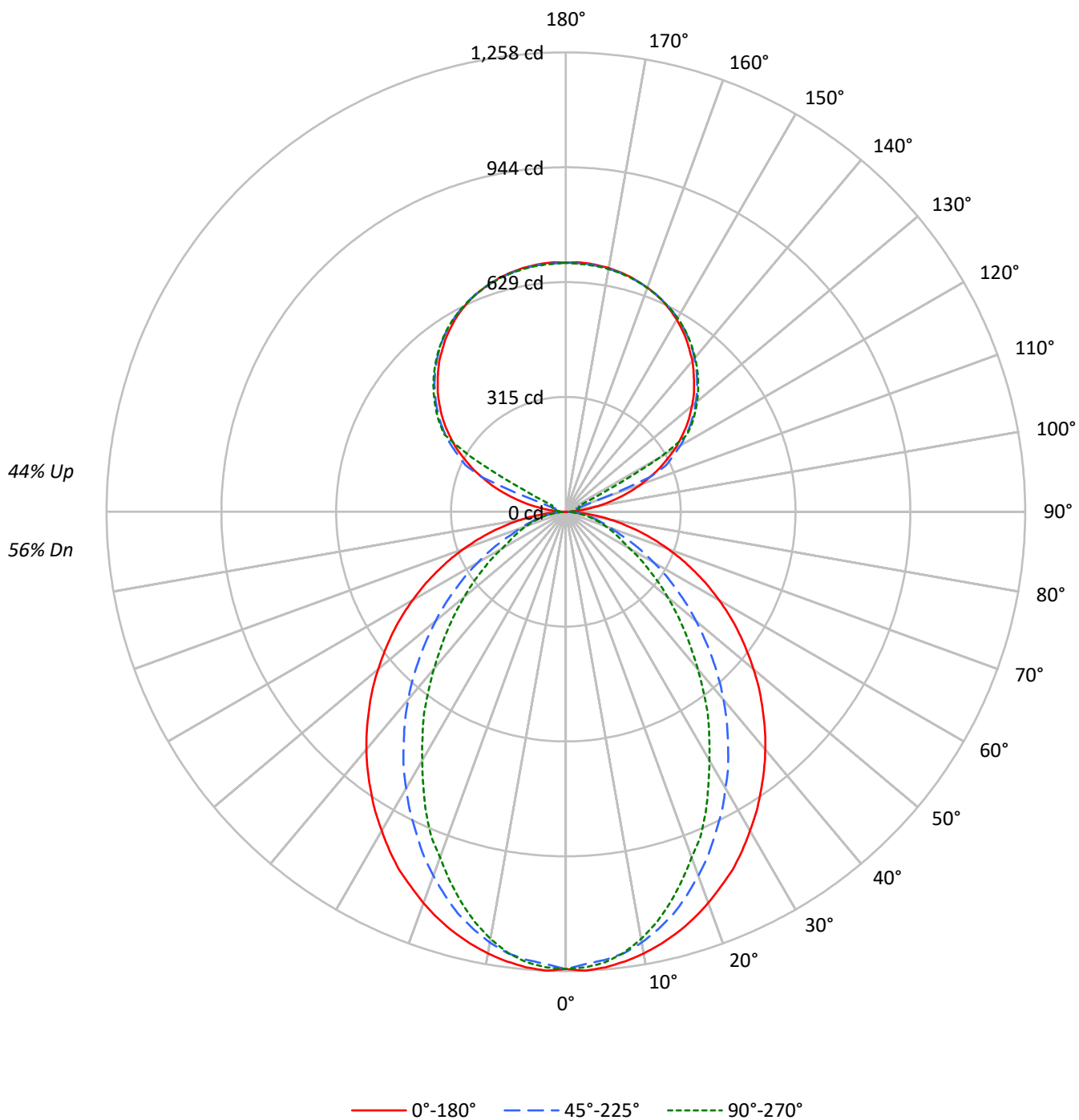
Lumens per Lamp: N/A
Luminaire Lumens: 4574.6 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 40.5
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: P907897

CATALOG NUMBER: DFN2DIP-HX2F0-030D020US840-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P907897

CATALOG NUMBER: DFN2DIP-HX2F0-030D020US840-RLLONL

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
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87		74	74	74		62
1	100	96	92	88	93	89	86	83	77	75	72		66	64	63		56
2	91	84	78	73	85	79	73	69	68	64	61		58	56	53		50
3	84	74	67	62	78	70	63	58	61	56	52		52	49	46		44
4	77	66	59	53	71	62	55	50	54	49	45		47	43	40		40
5	71	59	51	46	66	56	49	43	49	43	39		42	38	35		36
6	65	54	46	40	61	50	43	38	44	39	34		39	34	31		33
7	61	49	41	35	56	46	39	34	40	35	30		35	31	27		30
8	56	44	37	31	52	42	35	30	37	31	27		32	28	25		28
9	53	41	33	28	49	38	32	27	34	28	25		30	25	22		26
10	49	37	30	25	46	35	29	24	31	26	22		28	23	20		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2950	2950	2950
5°	2950	2896	2916
10°	2916	2833	2816
15°	2871	2732	2665
20°	2814	2597	2480
25°	2755	2446	2303
30°	2677	2292	2079
35°	2600	2127	1883
40°	2522	1958	1659
45°	2432	1771	1456
50°	2338	1582	1258
55°	2239	1382	1069
60°	2125	1173	875
65°	1993	962	781
70°	1834	766	699
75°	1632	662	625
80°	1344	535	527
85°	879	331	369

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2432 cd/sqm

TEST NUMBER: P907897

CATALOG NUMBER: DFN2DIP-HX2F0-030D020US840-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	2.6
10°-20°	322.1	7.0
20°-30°	452.3	9.9
30°-40°	493.0	10.8
40°-50°	453.1	9.9
50°-60°	355.9	7.8
60°-70°	231.6	5.1
70°-80°	119.2	2.6
80°-90°	31.6	0.7
90°-100°	22.5	0.5
100°-110°	83.8	1.8
110°-120°	222.2	4.9
120°-130°	368.6	8.1
130°-140°	391.5	8.6
140°-150°	363.9	8.0
150°-160°	292.5	6.4
160°-170°	188.5	4.1
170°-180°	64.9	1.4
0°-30°	891.8	19.5
0°-40°	1384.8	30.3
0°-60°	2193.8	48.0
0°-90°	2576.3	56.3
90°-120°	328.5	7.2
90°-150°	1452.4	31.7
90°-180°	1998.0	43.7
0°-180°	4574.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1252	1246	1232	1242	1238	119
15°	1191	1178	1140	1118	1107	336
25°	1081	1045	970	924	906	497
35°	932	874	774	703	678	583
45°	762	686	567	486	459	588
55°	579	491	368	300	279	517
65°	391	299	197	159	155	388
75°	208	129	91	83	82	220
85°	49	25	22	22	22	56
90°	0	6	10	12	13	4
95°	32	16	19	22	21	38
105°	150	165	30	35	38	160
115°	284	292	304	76	40	279
125°	401	407	417	420	422	358
135°	496	504	508	514	512	383
145°	576	575	584	587	584	360
155°	634	629	635	638	634	292
165°	668	665	666	670	666	189
175°	683	680	681	684	679	65
180°	682	682	682	682	682	

TEST NUMBER: P907897

CATALOG NUMBER: DFN2DIP-HX2F0-030D020US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1257.8	1252.1	1239.6	1251.0	1248.8
5°	1252.1	1246.5	1231.7	1241.9	1238.5
7.5°	1241.9	1235.2	1219.3	1223.8	1218.1
10°	1228.3	1220.4	1197.8	1194.3	1187.6
12.5°	1211.3	1201.1	1170.5	1163.8	1151.2
15°	1190.9	1178.4	1139.9	1118.4	1107.1
17.5°	1167.1	1149.0	1101.4	1076.5	1058.3
20°	1139.9	1117.2	1060.6	1032.4	1007.3
22.5°	1110.5	1084.4	1018.7	980.2	963.2
25°	1081.1	1044.7	970.0	923.5	906.5
27.5°	1045.9	1007.3	924.6	871.4	845.3
30°	1008.6	965.4	874.7	817.1	786.4
32.5°	972.2	920.1	827.3	759.2	730.8
35°	931.5	873.6	774.0	702.6	677.6
37.5°	891.8	829.4	724.1	645.8	617.6
40°	849.9	781.9	672.0	591.5	562.1
42.5°	806.8	734.4	619.9	535.9	507.7
45°	761.5	685.5	566.6	486.0	458.9
47.5°	718.4	638.0	515.6	435.1	410.2
50°	670.9	590.4	465.7	387.5	363.8
52.5°	624.3	539.4	418.2	343.4	321.8
55°	579.0	490.6	368.2	300.3	278.8
57.5°	532.6	441.9	324.2	260.6	242.5
60°	484.9	394.4	277.6	219.8	201.8
62.5°	438.6	347.9	237.9	183.6	174.6
65°	390.9	299.1	197.1	158.6	155.2
67.5°	345.7	253.8	158.6	139.4	135.9
70°	298.0	209.6	131.4	120.1	115.5
72.5°	252.7	168.7	109.9	100.9	98.6
75°	208.4	129.2	90.7	82.7	81.6
77.5°	164.3	91.7	71.4	66.9	64.5
80°	123.5	65.7	54.3	49.9	49.9
82.5°	86.0	44.2	37.4	35.1	35.1
85°	48.7	24.8	21.5	21.5	21.5
87.5°	18.2	9.0	9.0	8.0	8.0
90°	0.5	6.0	9.8	12.3	13.3
92.5°	12.3	10.4	11.8	12.8	13.3
95°	32.0	15.8	19.2	21.7	21.2
97.5°	57.7	17.3	25.1	26.7	27.2
100°	87.4	19.7	28.1	32.0	33.0
102.5°	119.9	118.9	29.1	34.5	36.1
105°	150.0	164.7	30.1	35.4	37.5
107.5°	185.0	197.2	31.1	36.5	38.5
110°	218.5	228.8	86.3	37.1	39.0

TEST NUMBER: P907897

CATALOG NUMBER: DFN2DIP-HX2F0-030D020US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	250.0	258.9	250.5	38.0	39.5
115°	283.6	292.0	304.4	75.9	40.5
117.5°	312.7	322.6	330.9	260.4	131.2
120°	345.3	352.6	361.5	367.5	300.8
122.5°	372.8	380.7	390.6	393.5	394.2
125°	401.0	407.4	416.8	420.2	421.7
127.5°	426.7	433.5	441.0	445.9	446.4
130°	450.8	458.7	464.1	469.6	469.1
132.5°	475.4	481.9	487.3	491.7	491.3
135°	496.2	504.1	508.5	513.5	512.5
137.5°	517.9	523.8	528.8	533.7	532.2
140°	539.1	543.1	548.5	552.9	550.5
142.5°	556.8	560.4	566.7	570.7	568.2
145°	575.6	575.1	583.5	586.9	584.5
147.5°	591.9	590.4	598.7	601.2	599.3
150°	607.6	604.2	612.1	615.0	612.6
152.5°	621.0	617.0	624.4	627.4	623.9
155°	633.8	629.3	635.3	638.2	634.3
157.5°	644.2	640.3	644.7	648.1	644.2
160°	653.1	650.1	653.1	656.0	652.6
162.5°	660.9	657.9	660.5	663.9	659.4
165°	667.8	664.9	666.3	669.8	666.3
167.5°	673.3	670.2	671.8	675.3	670.8
170°	677.7	674.7	675.7	679.1	674.7
172.5°	680.6	677.7	678.7	682.2	677.7
175°	683.1	679.6	680.6	684.1	679.1
177.5°	684.1	680.6	681.2	684.6	680.1
180°	681.7	681.7	681.7	681.7	681.7

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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	11.34	12.22	12.25	13.15	14.33	7.32	8.21	8.23	9.13	10.31
	3H	13.00	13.79	13.92	14.72	15.92	8.50	9.29	9.42	10.22	11.43
	4H	13.59	14.34	14.53	15.27	16.49	8.94	9.69	9.87	10.62	11.84
	6H	13.99	14.68	14.94	15.62	16.85	9.25	9.94	10.19	10.88	12.11
	8H	14.11	14.76	15.06	15.72	16.95	9.33	9.99	10.29	10.95	12.17
	12H	14.16	14.79	15.12	15.74	16.99	9.37	9.99	10.33	10.94	12.19
4H	2H	11.36	12.11	12.30	13.04	14.26	7.91	8.66	8.85	9.59	10.81
	3H	13.17	13.79	14.12	14.75	15.98	9.24	9.87	10.19	10.83	12.06
	4H	13.84	14.41	14.80	15.37	16.62	9.78	10.35	10.74	11.31	12.56
	6H	14.33	14.82	15.31	15.81	17.06	10.18	10.67	11.16	11.66	12.91
	8H	14.50	14.95	15.47	15.93	17.20	10.30	10.76	11.28	11.74	13.00
	12H	14.58	14.99	15.57	15.99	17.26	10.36	10.77	11.36	11.77	13.04
8H	4H	13.81	14.26	14.78	15.24	16.51	10.05	10.50	11.02	11.48	12.75
	6H	14.35	14.72	15.35	15.74	17.01	10.55	10.92	11.55	11.94	13.21
	8H	14.55	14.88	15.56	15.89	17.17	10.72	11.06	11.73	12.06	13.35
	12H	14.67	14.96	15.68	15.97	17.30	10.83	11.12	11.84	12.13	13.46
12H	4H	13.76	14.17	14.75	15.17	16.44	10.05	10.46	11.05	11.46	12.73
	6H	14.32	14.65	15.33	15.66	16.95	10.59	10.92	11.60	11.93	13.21
	8H	14.53	14.82	15.54	15.82	17.15	10.79	11.08	11.80	12.08	13.41

END OF REPORT