

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: P905623

Luminaire Tested: DFN2DIP-PN2F0-040D030US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905623
REPORT IS A COMBINATION OF REPORTS P900996 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-040D030US835-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

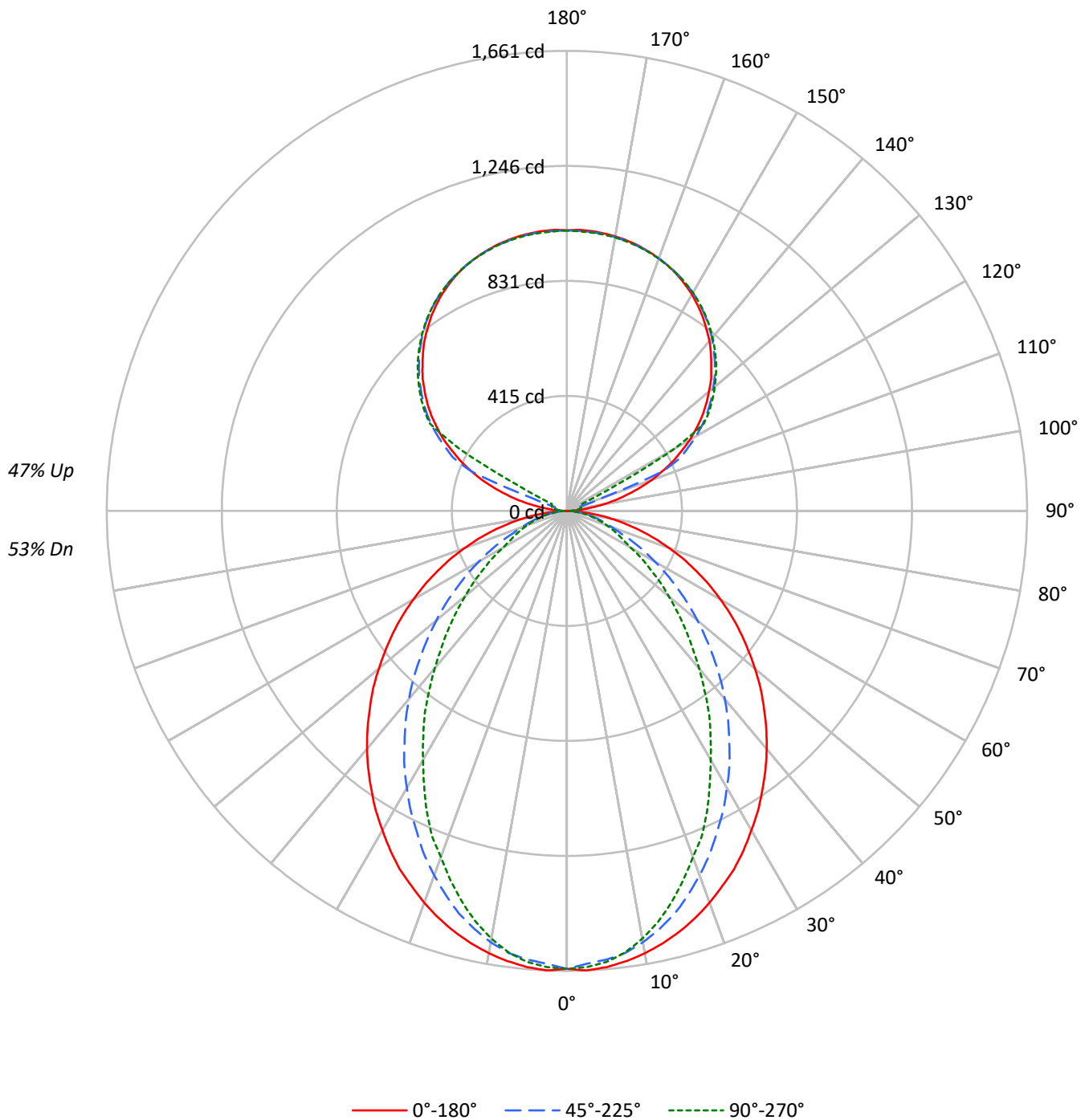
Lumens per Lamp: N/A
Luminaire Lumens: 6370.0 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 58.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905623

CATALOG NUMBER: DFN2DIP-PN2F0-040D030US835-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°	3581	3581	3581
5°	3581	3516	3541
10°	3539	3439	3421
15°	3485	3318	3238
20°	3415	3155	3015
25°	3343	2972	2800
30°	3248	2786	2530
35°	3155	2587	2292
40°	3060	2382	2020
45°	2950	2155	1774
50°	2836	1926	1534
55°	2717	1683	1304
60°	2578	1430	1069
65°	2419	1174	956
70°	2224	936	857
75°	1980	810	770
80°	1629	658	652
85°	1065	409	463

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2950 cd/sqm

TEST NUMBER: P905623

CATALOG NUMBER: DFN2DIP-PN2F0-040D030US835-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.9	2.4
10°-20°	425.3	6.7
20°-30°	597.2	9.4
30°-40°	650.9	10.2
40°-50°	598.3	9.4
50°-60°	469.9	7.4
60°-70°	305.8	4.8
70°-80°	157.4	2.5
80°-90°	42.0	0.7
90°-100°	33.4	0.5
100°-110°	124.4	2.0
110°-120°	330.1	5.2
120°-130°	547.5	8.6
130°-140°	581.5	9.1
140°-150°	540.5	8.5
150°-160°	434.5	6.8
160°-170°	280.0	4.4
170°-180°	96.4	1.5
0°-30°	1177.4	18.5
0°-40°	1828.4	28.7
0°-60°	2896.5	45.5
0°-90°	3401.8	53.4
90°-120°	487.9	7.7
90°-150°	2157.3	33.9
90°-180°	2968.0	46.6
0°-180°	6370.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1653	1653	1653	1653	1653	
5°	1653	1646	1626	1640	1635	157
15°	1572	1556	1505	1477	1462	443
25°	1427	1379	1281	1219	1197	656
35°	1230	1154	1022	928	895	770
45°	1005	905	748	642	606	776
55°	764	648	486	396	368	683
65°	516	395	260	210	205	512
75°	275	170	120	109	108	291
85°	64	33	28	28	28	74
90°	1	9	15	18	20	6
95°	48	23	28	32	32	56
105°	223	245	45	53	56	238
115°	421	434	452	113	60	415
125°	596	605	619	624	626	531
135°	737	749	755	763	761	569
145°	855	854	867	872	868	535
155°	941	935	944	948	942	434
165°	992	988	990	995	990	280
175°	1015	1010	1011	1016	1009	97
180°	1012	1012	1012	1012	1012	

TEST NUMBER: P905623

CATALOG NUMBER: DFN2DIP-PN2F0-040D030US835-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1653.2	1653.2	1653.2	1653.2	1653.2
2.5°	1660.7	1653.2	1636.7	1651.8	1648.7
5°	1653.2	1645.7	1626.2	1639.7	1635.3
7.5°	1639.7	1630.8	1609.9	1615.7	1608.3
10°	1621.8	1611.3	1581.4	1576.8	1568.0
12.5°	1599.4	1585.9	1545.4	1536.5	1520.0
15°	1572.4	1555.9	1505.1	1476.7	1461.8
17.5°	1541.0	1517.0	1454.1	1421.3	1397.3
20°	1505.1	1475.1	1400.3	1363.0	1330.0
22.5°	1466.2	1431.8	1344.9	1294.1	1271.8
25°	1427.3	1379.4	1280.6	1219.4	1196.8
27.5°	1381.0	1330.0	1220.8	1150.5	1116.0
30°	1331.6	1274.6	1154.9	1078.7	1038.3
32.5°	1283.7	1214.8	1092.2	1002.4	964.9
35°	1229.9	1153.5	1021.9	927.6	894.6
37.5°	1177.5	1095.1	956.0	852.7	815.4
40°	1122.1	1032.4	887.2	781.0	742.1
42.5°	1065.2	969.5	818.4	707.6	670.3
45°	1005.4	905.1	748.1	641.8	605.9
47.5°	948.6	842.4	680.8	574.5	541.6
50°	885.7	779.5	614.9	511.6	480.3
52.5°	824.3	712.1	552.1	453.3	424.9
55°	764.5	647.8	486.2	396.5	368.1
57.5°	703.2	583.5	427.9	344.1	320.2
60°	640.3	520.6	366.5	290.3	266.4
62.5°	579.1	459.4	314.1	242.4	230.5
65°	516.2	394.9	260.3	209.5	204.9
67.5°	456.4	335.1	209.5	184.0	179.5
70°	393.5	276.8	173.5	158.6	152.5
72.5°	333.7	222.9	145.1	133.2	130.2
75°	275.2	170.5	119.7	109.2	107.8
77.5°	217.0	121.1	94.3	88.3	85.2
80°	163.0	86.8	71.7	65.9	65.9
82.5°	113.7	58.4	49.4	46.3	46.3
85°	64.3	32.9	28.4	28.4	28.4
87.5°	24.0	11.9	11.9	10.5	10.5
90°	0.7	8.8	14.6	18.4	19.7
92.5°	18.4	15.4	17.6	19.1	19.7
95°	47.6	23.4	28.5	32.3	31.5
97.5°	85.7	25.7	37.3	39.6	40.3
100°	129.7	29.3	41.8	47.6	49.1
102.5°	178.0	176.6	43.2	51.2	53.5
105°	222.7	244.7	44.7	52.7	55.7
107.5°	274.7	293.0	46.2	54.2	57.2
110°	324.6	339.9	128.2	55.0	57.9

TEST NUMBER: P905623

CATALOG NUMBER: DFN2DIP-PN2F0-040D030US835-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	371.5	384.6	372.2	56.4	58.6
115°	421.2	433.7	452.0	112.8	60.1
117.5°	464.5	479.1	491.6	386.8	194.9
120°	512.8	523.8	537.0	545.8	446.9
122.5°	553.8	565.6	580.3	584.6	585.4
125°	595.6	605.1	619.1	624.2	626.4
127.5°	633.7	643.9	655.0	662.3	663.0
130°	669.6	681.4	689.4	697.4	696.8
132.5°	706.2	715.8	723.8	730.4	729.7
135°	737.0	748.8	755.3	762.7	761.2
137.5°	769.2	778.0	785.4	792.7	790.5
140°	800.7	806.6	814.6	821.2	817.6
142.5°	827.2	832.3	841.8	847.6	844.0
145°	855.0	854.2	866.7	871.8	868.1
147.5°	879.1	876.9	889.4	893.0	890.1
150°	902.6	897.5	909.2	913.5	909.9
152.5°	922.3	916.5	927.5	931.9	926.8
155°	941.4	934.9	943.6	948.0	942.2
157.5°	956.8	951.0	957.6	962.7	956.8
160°	970.0	965.6	970.0	974.4	969.2
162.5°	981.7	977.3	981.0	986.1	979.5
165°	991.9	987.6	989.8	994.9	989.8
167.5°	1000.0	995.6	997.8	1003.0	996.4
170°	1006.6	1002.2	1003.7	1008.8	1002.2
172.5°	1011.0	1006.6	1008.1	1013.2	1006.6
175°	1014.6	1009.5	1011.0	1016.1	1008.8
177.5°	1016.1	1011.0	1011.8	1016.9	1010.3
180°	1012.5	1012.5	1012.5	1012.5	1012.5

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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	11.77	12.63	12.71	13.58	14.80	7.74	8.60	8.68	9.55	10.77
	3H	13.43	14.20	14.38	15.16	16.41	8.92	9.68	9.86	10.64	11.89
	4H	14.03	14.76	14.99	15.72	16.97	9.36	10.08	10.32	11.04	12.30
	6H	14.44	15.10	15.41	16.07	17.34	9.66	10.33	10.64	11.30	12.57
	8H	14.56	15.19	15.53	16.17	17.44	9.75	10.38	10.73	11.36	12.63
	12H	14.61	15.21	15.59	16.19	17.48	9.78	10.39	10.77	11.36	12.66
4H	2H	11.79	12.52	12.76	13.48	14.74	8.33	9.06	9.30	10.02	11.27
	3H	13.60	14.20	14.58	15.19	16.46	9.66	10.27	10.64	11.26	12.53
	4H	14.28	14.83	15.26	15.81	17.11	10.20	10.75	11.18	11.73	13.03
	6H	14.78	15.25	15.77	16.26	17.55	10.60	11.07	11.60	12.08	13.38
	8H	14.94	15.38	15.94	16.38	17.69	10.72	11.16	11.72	12.16	13.47
	12H	15.02	15.42	16.04	16.44	17.75	10.78	11.17	11.79	12.19	13.50
8H	4H	14.24	14.69	15.24	15.69	16.99	10.47	10.91	11.47	11.91	13.22
	6H	14.79	15.15	15.81	16.20	17.50	10.96	11.33	11.99	12.37	13.68
	8H	14.99	15.31	16.02	16.34	17.67	11.14	11.46	12.17	12.49	13.82
	12H	15.12	15.40	16.15	16.42	17.79	11.25	11.53	12.28	12.55	13.92
12H	4H	14.20	14.59	15.21	15.61	16.92	10.47	10.87	11.49	11.89	13.20
	6H	14.76	15.08	15.79	16.11	17.44	11.01	11.33	12.04	12.36	13.68
	8H	14.97	15.25	16.00	16.28	17.64	11.20	11.49	12.24	12.51	13.88