

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: P905714

Luminaire Tested: DFN2DIP-PN3F0-040D050US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905714
REPORT IS A COMBINATION OF REPORTS P899542 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-040D050US835-RLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

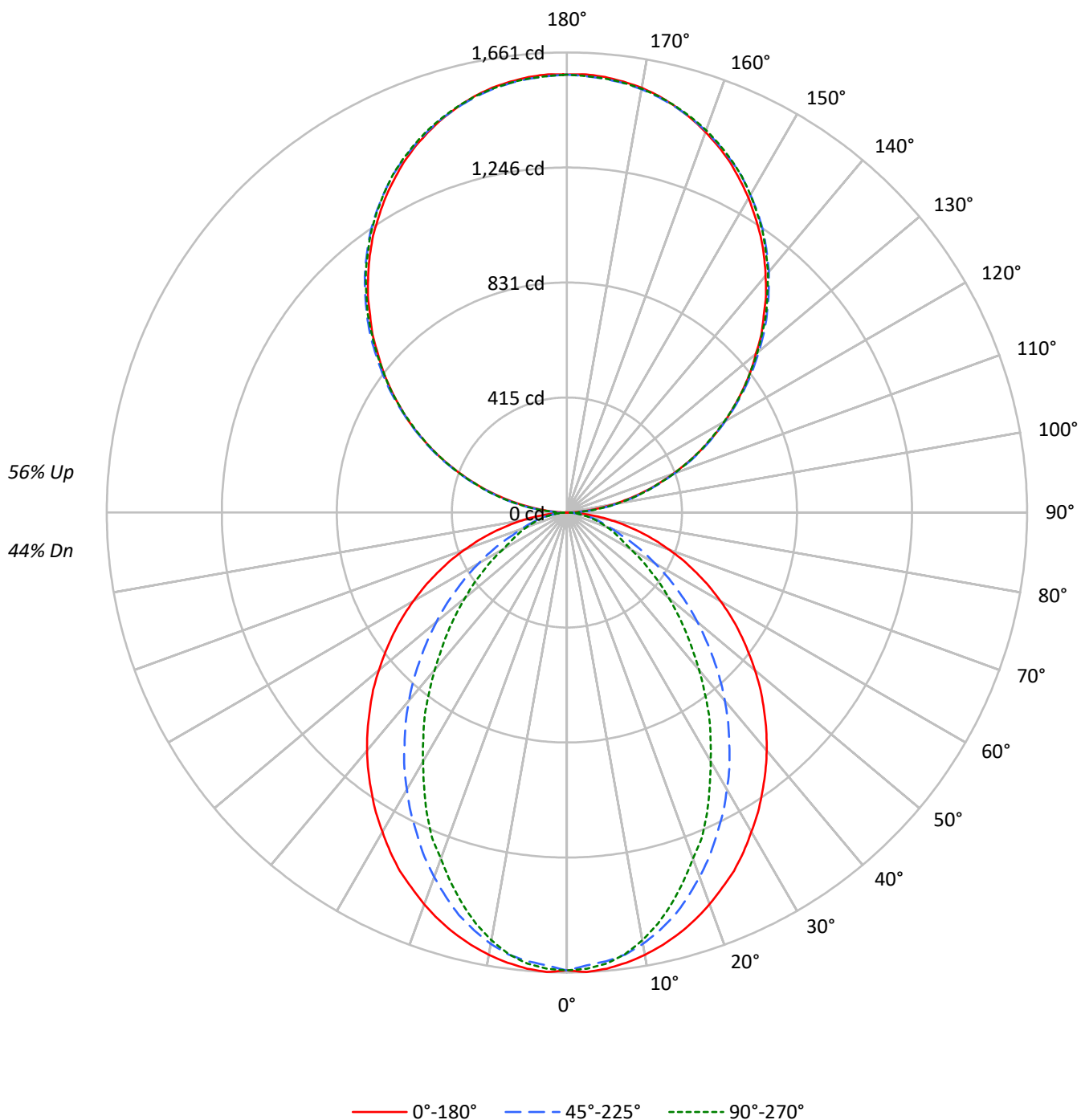
Lumens per Lamp: N/A
Luminaire Lumens: 7825.0 lumens
Efficiency: N/A
Efficacy: 108.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 72.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905714

CATALOG NUMBER: DFN2DIP-PN3F0-040D050US835-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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50
1	97	93	89	86	88	85	82	79	70	68	66	57	56	54	45	44	43
2	88	81	75	71	81	75	70	65	62	59	55	51	48	46	40	38	37
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	32	30	28
5	68	57	49	43	62	53	46	41	44	39	35	37	33	30	29	27	25
6	63	51	43	38	57	47	41	35	40	35	31	33	29	26	27	24	22
7	58	46	39	33	53	43	36	31	36	31	27	30	26	23	25	22	20
8	54	42	35	30	50	39	32	28	33	28	24	28	24	21	23	20	18
9	50	39	31	26	46	36	29	25	31	25	22	26	22	19	21	18	16
10	47	35	28	24	43	33	27	22	28	23	20	24	20	17	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1933	1933	1933
5°	1935	1901	1913
10°	1914	1862	1850
15°	1887	1799	1753
20°	1851	1713	1634
25°	1814	1617	1520
30°	1765	1518	1375
35°	1717	1412	1247
40°	1667	1303	1101
45°	1610	1182	969
50°	1551	1059	840
55°	1490	929	716
60°	1418	793	588
65°	1336	655	528
70°	1236	526	477
75°	1110	461	432
80°	928	382	372
85°	631	248	275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1610 cd/sqm

TEST NUMBER: P905714

CATALOG NUMBER: DFN2DIP-PN3F0-040D050US835-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.9	2.0
10°-20°	425.3	5.4
20°-30°	597.2	7.6
30°-40°	650.9	8.3
40°-50°	598.3	7.6
50°-60°	469.9	6.0
60°-70°	305.8	3.9
70°-80°	157.4	2.0
80°-90°	44.7	0.6
90°-100°	97.8	1.3
100°-110°	310.9	4.0
110°-120°	532.1	6.8
120°-130°	699.7	8.9
130°-140°	785.4	10.0
140°-150°	770.2	9.8
150°-160°	646.1	8.3
160°-170°	428.5	5.5
170°-180°	149.8	1.9
0°-30°	1177.4	15.0
0°-40°	1828.4	23.4
0°-60°	2896.5	37.0
0°-90°	3404.5	43.5
90°-120°	940.8	12.0
90°-150°	3196.2	40.8
90°-180°	4421.0	56.5
0°-180°	7825.0	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	17	47	44	45	8
95°	70	83	85	85	83	77
105°	287	291	294	296	296	303
115°	534	542	539	538	534	528
125°	777	788	785	780	779	694
135°	1004	1019	1022	1021	1017	776
145°	1220	1229	1237	1238	1233	762
155°	1394	1398	1402	1409	1405	642
165°	1517	1516	1516	1525	1518	428
175°	1578	1575	1572	1581	1573	150
180°	1581	1581	1581	1581	1581	

TEST NUMBER: P905714

CATALOG NUMBER: DFN2DIP-PN3F0-040D050US835-RLFL

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°	1.4	17.2	46.7	43.9	45.3
92.5°	29.6	40.0	41.5	42.9	42.9
95°	69.6	83.0	85.3	85.3	83.0
97.5°	115.8	128.2	133.5	133.5	133.5
100°	169.2	180.2	184.0	184.0	182.6
102.5°	225.5	233.6	238.8	240.3	238.8
105°	287.0	290.8	293.7	296.0	296.0
107.5°	348.0	353.7	353.7	354.7	348.0
110°	407.1	414.8	414.8	414.8	410.9

TEST NUMBER: P905714

CATALOG NUMBER: DFN2DIP-PN3F0-040D050US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	471.0	479.1	477.7	473.9	471.0
115°	533.9	541.6	539.2	537.8	533.9
117.5°	596.4	606.9	600.2	596.4	592.6
120°	659.3	669.8	659.3	659.3	655.0
122.5°	716.5	729.9	723.2	719.4	716.5
125°	776.6	788.5	784.7	780.4	779.0
127.5°	835.2	850.0	844.8	839.0	835.2
130°	890.1	907.2	904.8	902.0	896.7
132.5°	951.6	964.9	965.9	959.2	955.4
135°	1004.5	1019.2	1022.1	1020.7	1016.9
137.5°	1063.6	1075.5	1077.9	1076.9	1071.2
140°	1115.5	1127.5	1134.1	1134.1	1128.9
142.5°	1168.9	1180.9	1184.7	1186.1	1180.9
145°	1219.5	1229.0	1236.6	1238.1	1232.8
147.5°	1264.8	1276.7	1282.4	1284.8	1279.5
150°	1311.5	1319.6	1324.8	1329.1	1324.8
152.5°	1353.0	1361.1	1367.7	1373.0	1367.7
155°	1394.4	1398.2	1402.5	1409.2	1404.9
157.5°	1430.2	1433.0	1435.4	1445.0	1438.3
160°	1462.1	1465.0	1466.4	1474.5	1468.8
162.5°	1491.7	1491.7	1493.1	1502.2	1495.5
165°	1517.0	1515.5	1515.5	1525.1	1518.4
167.5°	1539.8	1535.5	1535.5	1545.1	1538.4
170°	1557.0	1553.2	1551.8	1561.3	1553.2
172.5°	1568.9	1565.1	1563.7	1573.2	1565.1
175°	1578.5	1574.6	1571.8	1581.3	1573.2
177.5°	1583.7	1579.9	1577.0	1585.1	1577.0
180°	1581.3	1581.3	1581.3	1581.3	1581.3

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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	8.76	9.54	9.77	10.56	11.92	4.72	5.50	5.74	6.52	7.89
	3H	10.43	11.12	11.45	12.15	13.54	5.90	6.60	6.93	7.63	9.01
	4H	11.03	11.69	12.07	12.72	14.11	6.35	7.01	7.39	8.04	9.43
	6H	11.44	12.05	12.49	13.09	14.49	6.66	7.27	7.71	8.30	9.71
	8H	11.56	12.14	12.62	13.19	14.59	6.75	7.32	7.80	8.38	9.77
	12H	11.62	12.17	12.68	13.22	14.64	6.78	7.33	7.84	8.38	9.80
4H	2H	8.77	9.43	9.81	10.46	11.85	5.31	5.97	6.36	7.00	8.39
	3H	10.59	11.13	11.64	12.20	13.60	6.65	7.20	7.70	8.26	9.66
	4H	11.27	11.77	12.33	12.83	14.25	7.19	7.69	8.25	8.74	10.17
	6H	11.78	12.21	12.85	13.28	14.71	7.60	8.03	8.67	9.11	10.53
	8H	11.95	12.35	13.02	13.42	14.86	7.72	8.13	8.79	9.19	10.63
	12H	12.04	12.40	13.12	13.48	14.92	7.78	8.15	8.87	9.23	10.67
8H	4H	11.23	11.64	12.30	12.70	14.14	7.46	7.86	8.53	8.93	10.37
	6H	11.79	12.12	12.88	13.23	14.67	7.97	8.30	9.06	9.41	10.85
	8H	12.00	12.29	13.10	13.39	14.84	8.16	8.45	9.26	9.54	10.99
	12H	12.14	12.39	13.24	13.48	14.97	8.27	8.52	9.37	9.61	11.11
12H	4H	11.18	11.55	12.27	12.63	14.07	7.46	7.83	8.55	8.91	10.35
	6H	11.77	12.06	12.86	13.15	14.60	8.02	8.31	9.12	9.40	10.86
	8H	11.98	12.24	13.08	13.32	14.82	8.22	8.48	9.32	9.57	11.06