

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: P923435

Luminaire Tested: DFN2DIP-TR2F0-050D060US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923435
REPORT IS A COMBINATION OF REPORTS P901788 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D060US940-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

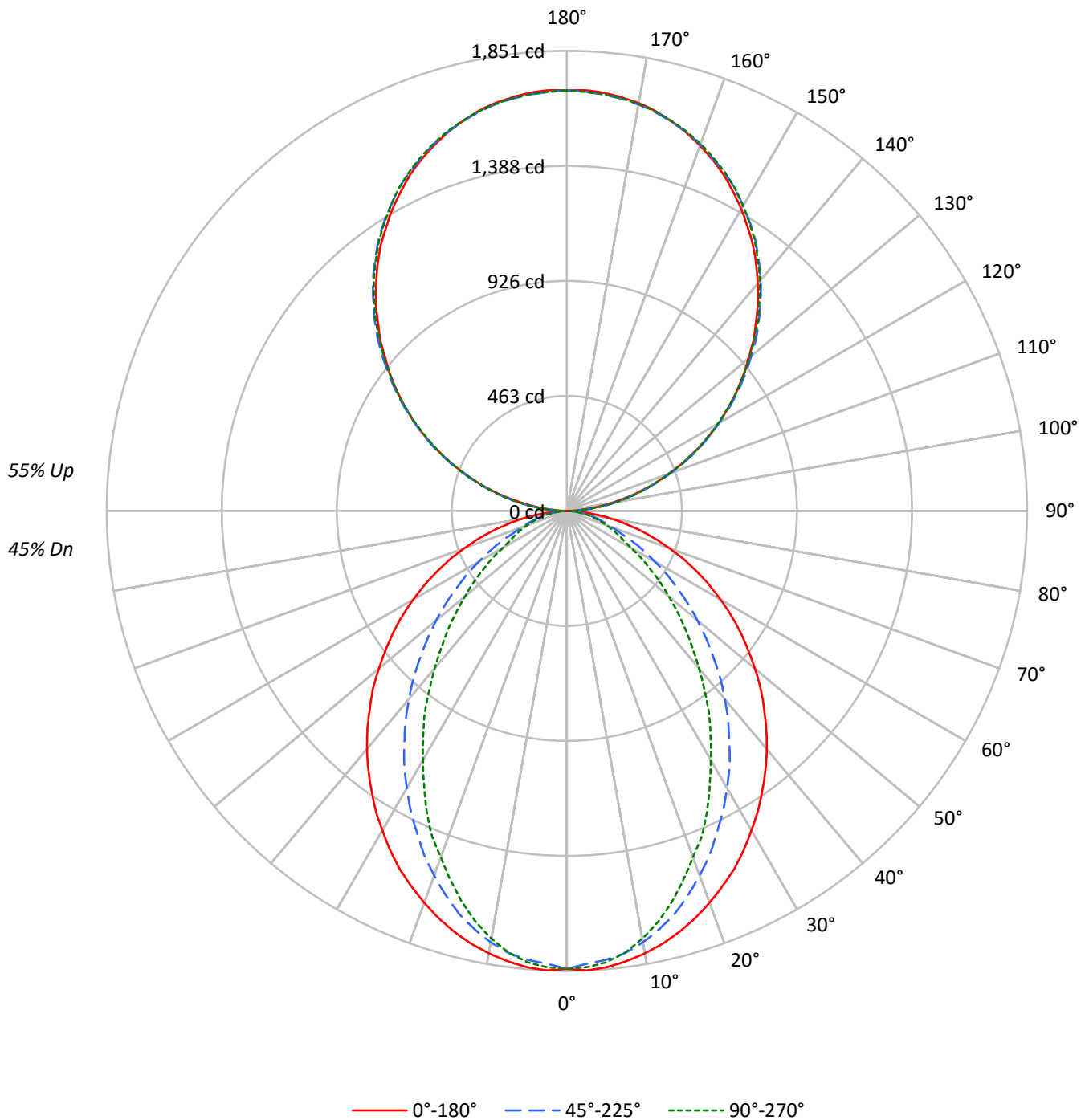
Lumens per Lamp: N/A
Luminaire Lumens: 8524.8 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 95.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-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	30	10
RCR																	
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	34	33
4	74	64	56	51	68	59	52	47	50	45	41	41	37	35	33	30	28
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	24	22
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18
9	51	39	31	27	46	36	29	25	31	26	22	26	22	19	21	18	16
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4110	4110	4110
5°	4110	4036	4064
10°	4064	3947	3924
15°	4002	3808	3714
20°	3922	3620	3457
25°	3839	3410	3210
30°	3732	3197	2899
35°	3625	2967	2625
40°	3517	2731	2314
45°	3391	2471	2031
50°	3261	2209	1755
55°	3124	1929	1491
60°	2966	1639	1221
65°	2783	1345	1091
70°	2562	1071	977
75°	2283	926	875
80°	1882	752	738
85°	1236	467	520

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3391 cd/sqm

TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.7	2.0
10°-20°	474.1	5.6
20°-30°	665.6	7.8
30°-40°	725.6	8.5
40°-50°	666.9	7.8
50°-60°	523.7	6.1
60°-70°	340.9	4.0
70°-80°	175.5	2.1
80°-90°	49.6	0.6
90°-100°	104.7	1.2
100°-110°	332.7	3.9
110°-120°	569.3	6.7
120°-130°	748.8	8.8
130°-140°	840.5	9.9
140°-150°	824.2	9.7
150°-160°	691.4	8.1
160°-170°	458.5	5.4
170°-180°	160.3	1.9
0°-30°	1312.4	15.4
0°-40°	2038.0	23.9
0°-60°	3228.6	37.9
0°-90°	3794.6	44.5
90°-120°	1006.7	11.8
90°-150°	3420.1	40.1
90°-180°	4730.0	55.5
0°-180°	8524.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1834	1813	1828	1823	175
15°	1753	1734	1678	1646	1629	494
25°	1591	1538	1427	1359	1334	732
35°	1371	1286	1139	1034	997	858
45°	1121	1009	834	715	675	865
55°	852	722	542	442	410	761
65°	575	440	290	234	228	570
75°	307	190	133	122	120	324
85°	72	37	32	32	32	82
90°	2	18	50	47	48	8
95°	74	89	91	91	89	83
105°	307	311	314	317	317	324
115°	571	580	577	575	571	565
125°	831	844	840	835	834	743
135°	1075	1091	1094	1092	1088	831
145°	1305	1315	1323	1325	1319	815
155°	1492	1496	1501	1508	1503	687
165°	1623	1622	1622	1632	1625	458
175°	1689	1685	1682	1692	1683	160
180°	1692	1692	1692	1692	1692	

TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1842.7	1842.7	1842.7	1842.7	1842.7
2.5°	1851.0	1842.7	1824.4	1841.1	1837.7
5°	1842.7	1834.4	1812.7	1827.6	1822.7
7.5°	1827.6	1817.8	1794.4	1801.0	1792.6
10°	1807.7	1796.0	1762.7	1757.7	1747.7
12.5°	1782.7	1767.7	1722.6	1712.7	1694.2
15°	1752.7	1734.3	1677.7	1646.0	1629.3
17.5°	1717.6	1691.0	1620.9	1584.2	1557.5
20°	1677.7	1644.2	1560.8	1519.3	1482.5
22.5°	1634.3	1595.9	1499.1	1442.5	1417.6
25°	1590.9	1537.5	1427.4	1359.1	1334.0
27.5°	1539.3	1482.5	1360.8	1282.4	1244.0
30°	1484.3	1420.8	1287.4	1202.4	1157.3
32.5°	1430.8	1354.1	1217.5	1117.3	1075.6
35°	1370.8	1285.8	1139.1	1033.9	997.2
37.5°	1312.4	1220.7	1065.7	950.5	908.9
40°	1250.7	1150.8	988.8	870.5	827.2
42.5°	1187.4	1080.7	912.2	788.7	747.2
45°	1120.7	1008.9	833.8	715.3	675.3
47.5°	1057.3	939.0	758.8	640.3	603.7
50°	987.3	868.9	685.5	570.2	535.4
52.5°	918.8	793.7	615.4	505.3	473.7
55°	852.1	722.0	541.9	441.9	410.3
57.5°	783.8	650.4	477.0	383.6	356.9
60°	713.7	580.3	408.5	323.6	296.9
62.5°	645.4	512.0	350.2	270.2	256.9
65°	575.3	440.2	290.2	233.5	228.5
67.5°	508.6	373.5	233.5	205.1	200.1
70°	438.6	308.5	193.4	176.7	170.0
72.5°	371.9	248.4	161.8	148.5	145.1
75°	306.8	190.0	133.4	121.7	120.1
77.5°	241.8	135.0	105.1	98.4	95.0
80°	181.7	96.8	80.0	73.4	73.4
82.5°	126.7	65.1	55.0	51.6	51.6
85°	71.7	36.6	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
90°	1.5	18.4	50.0	46.9	48.4
92.5°	31.7	42.9	44.4	45.9	45.9
95°	74.5	88.7	91.3	91.3	88.7
97.5°	123.9	137.2	142.9	142.9	142.9
100°	181.1	192.8	196.9	196.9	195.4
102.5°	241.3	249.9	255.6	257.1	255.6
105°	307.1	311.2	314.2	316.8	316.8
107.5°	372.4	378.5	378.5	379.5	372.4
110°	435.7	443.8	443.8	443.8	439.7

TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	504.0	512.6	511.1	507.0	504.0
115°	571.3	579.5	576.9	575.4	571.3
117.5°	638.2	649.4	642.2	638.2	634.1
120°	705.5	716.8	705.5	705.5	700.9
122.5°	766.7	781.0	773.8	769.8	766.7
125°	831.0	843.7	839.6	835.1	833.6
127.5°	893.8	909.5	903.9	897.9	893.8
130°	952.4	970.8	968.2	965.2	959.6
132.5°	1018.2	1032.5	1033.5	1026.4	1022.3
135°	1074.9	1090.7	1093.7	1092.2	1088.1
137.5°	1138.1	1150.8	1153.4	1152.4	1146.3
140°	1193.7	1206.5	1213.6	1213.6	1208.0
142.5°	1250.8	1263.6	1267.7	1269.2	1263.6
145°	1304.9	1315.1	1323.3	1324.8	1319.2
147.5°	1353.3	1366.1	1372.3	1374.7	1369.1
150°	1403.4	1412.0	1417.6	1422.2	1417.6
152.5°	1447.7	1456.4	1463.6	1469.2	1463.6
155°	1492.1	1496.2	1500.7	1508.0	1503.3
157.5°	1530.4	1533.5	1536.0	1546.2	1539.1
160°	1564.6	1567.6	1569.1	1577.8	1571.7
162.5°	1596.2	1596.2	1597.7	1607.4	1600.3
165°	1623.2	1621.7	1621.7	1631.9	1624.8
167.5°	1647.7	1643.2	1643.2	1653.3	1646.2
170°	1666.1	1662.0	1660.5	1670.6	1662.0
172.5°	1678.8	1674.7	1673.2	1683.4	1674.7
175°	1689.0	1685.0	1681.9	1692.1	1683.4
177.5°	1694.6	1690.6	1687.5	1696.1	1687.5
180°	1692.1	1692.1	1692.1	1692.1	1692.1

TEST NUMBER: P923435

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US940-RLONL

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	11.39	12.18	12.40	13.19	14.54	7.37	8.16	8.38	9.18	10.53
	3H	13.04	13.75	14.06	14.77	16.14	8.54	9.25	9.56	10.27	11.64
	4H	13.63	14.30	14.67	15.33	16.70	8.98	9.65	10.01	10.67	12.05
	6H	14.03	14.65	15.08	15.68	17.07	9.29	9.90	10.33	10.93	12.32
	8H	14.15	14.73	15.20	15.78	17.16	9.37	9.95	10.42	11.00	12.38
	12H	14.20	14.75	15.25	15.79	17.20	9.40	9.96	10.45	11.00	12.41
4H	2H	11.40	12.07	12.44	13.09	14.47	7.95	8.62	8.99	9.64	11.02
	3H	13.20	13.75	14.25	14.81	16.20	9.28	9.83	10.33	10.89	12.28
	4H	13.87	14.38	14.92	15.43	16.84	9.81	10.32	10.86	11.36	12.78
	6H	14.36	14.80	15.42	15.87	17.28	10.21	10.65	11.27	11.72	13.13
	8H	14.52	14.93	15.59	15.99	17.42	10.33	10.74	11.39	11.80	13.22
	12H	14.60	14.97	15.68	16.05	17.48	10.38	10.75	11.46	11.83	13.26
8H	4H	13.83	14.24	14.90	15.30	16.72	10.07	10.48	11.14	11.54	12.97
	6H	14.37	14.71	15.46	15.81	17.23	10.57	10.90	11.66	12.01	13.43
	8H	14.57	14.87	15.67	15.95	17.39	10.75	11.04	11.84	12.13	13.57
	12H	14.69	14.95	15.79	16.03	17.52	10.85	11.11	11.95	12.19	13.67
12H	4H	13.78	14.15	14.86	15.22	16.65	10.07	10.44	11.15	11.52	12.95
	6H	14.35	14.64	15.44	15.73	17.17	10.61	10.91	11.71	11.99	13.43
	8H	14.55	14.81	15.64	15.89	17.37	10.81	11.06	11.90	12.15	13.63