

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: P917977

Luminaire Tested: DFN2DIP-TR2F0-050D060US930-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917977
REPORT IS A COMBINATION OF REPORTS P901787 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D060US930-FLLONL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

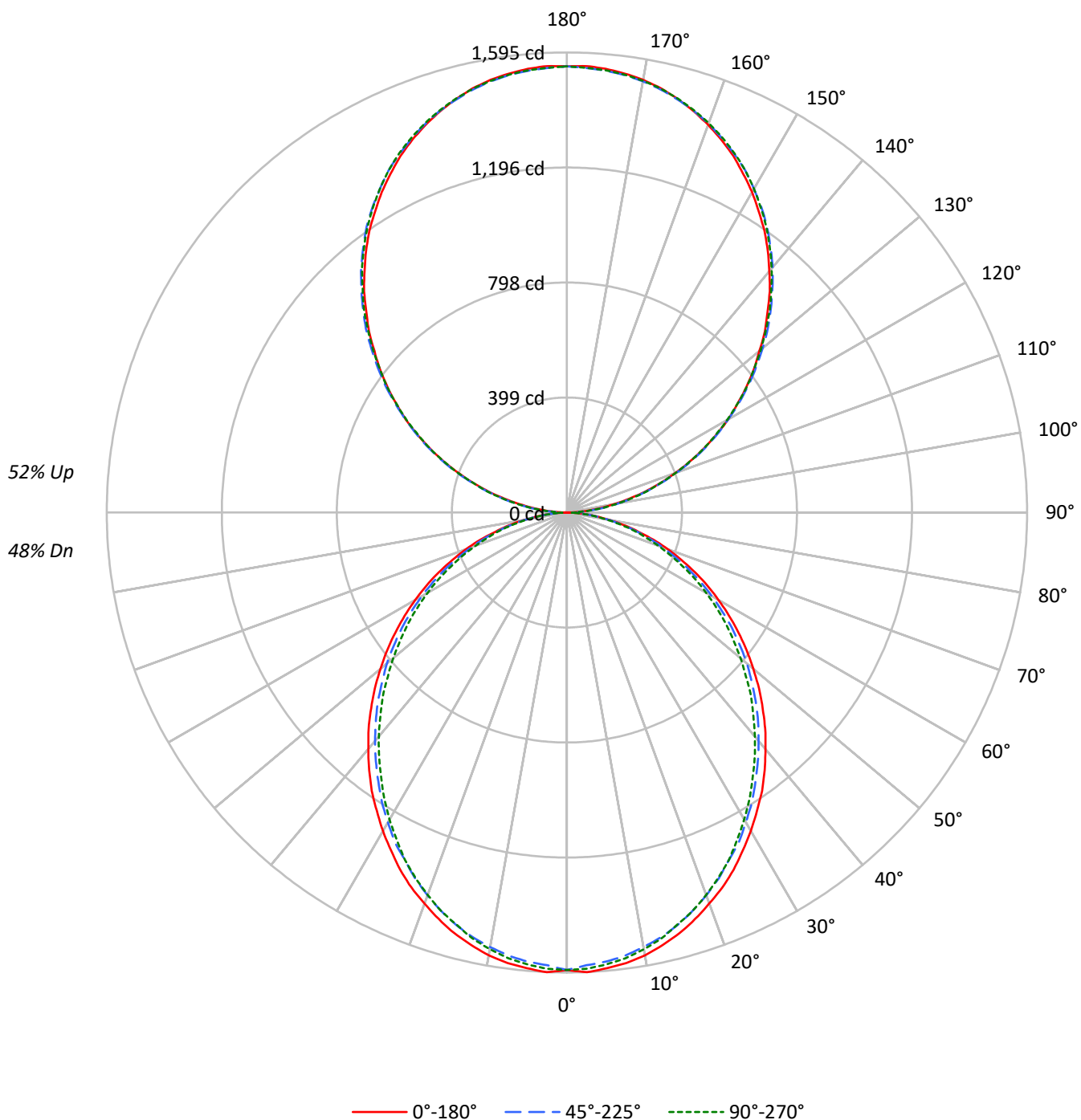
Lumens per Lamp: N/A
Luminaire Lumens: 8365.0 lumens
Efficiency: N/A
Efficacy: 87.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 95.9
Input Voltage (V): 120
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: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLONL

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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55
1	97	93	89	86	89	86	82	79	72	70	68	60	58	57	48	47	46
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	41	39
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33
4	74	63	55	49	68	59	52	46	50	44	40	41	37	34	34	31	28
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	27	24	22
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19
8	54	41	34	28	49	39	32	27	33	28	24	28	24	20	23	20	17
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	21	18	16
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3538	3538	3538
5°	3538	3480	3506
10°	3504	3426	3452
15°	3447	3362	3372
20°	3373	3275	3291
25°	3298	3174	3197
30°	3206	3079	3079
35°	3118	2968	2955
40°	3011	2856	2837
45°	2903	2743	2715
50°	2786	2624	2575
55°	2662	2487	2445
60°	2523	2326	2296
65°	2369	2157	2120
70°	2174	1951	1930
75°	1906	1705	1745
80°	1580	1391	1411
85°	1078	876	876

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2903 cd/sqm

TEST NUMBER: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.3	1.8
10°-20°	420.0	5.0
20°-30°	617.3	7.4
30°-40°	717.0	8.6
40°-50°	716.1	8.6
50°-60°	624.4	7.5
60°-70°	461.6	5.5
70°-80°	261.1	3.1
80°-90°	73.3	0.9
90°-100°	95.7	1.1
100°-110°	304.2	3.6
110°-120°	520.6	6.2
120°-130°	684.6	8.2
130°-140°	768.4	9.2
140°-150°	753.5	9.0
150°-160°	632.1	7.6
160°-170°	419.2	5.0
170°-180°	146.5	1.8
0°-30°	1186.6	14.2
0°-40°	1903.6	22.8
0°-60°	3244.1	38.8
0°-90°	4040.1	48.3
90°-120°	920.5	11.0
90°-150°	3127.0	37.4
90°-180°	4325.0	51.7
0°-180°	8365.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1586	1586	1586	1586	1586	
5°	1586	1580	1563	1576	1573	151
15°	1510	1501	1481	1487	1480	425
25°	1367	1354	1328	1332	1328	629
35°	1179	1164	1139	1130	1123	736
45°	959	949	926	909	903	740
55°	726	717	698	680	673	649
65°	490	480	465	452	444	484
75°	256	253	246	236	240	273
85°	62	61	60	55	53	70
90°	1	17	46	43	44	8
95°	68	81	84	84	81	76
105°	281	284	287	290	290	296
115°	522	530	528	526	522	517
125°	760	771	768	764	762	679
135°	983	997	1000	999	995	760
145°	1193	1202	1210	1211	1206	745
155°	1364	1368	1372	1379	1374	628
165°	1484	1483	1483	1492	1486	419
175°	1544	1541	1538	1547	1539	147
180°	1547	1547	1547	1547	1547	

TEST NUMBER: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1586.2	1586.2	1586.2	1586.2	1586.2
2.5°	1595.4	1587.8	1571.0	1586.2	1583.3
5°	1586.2	1580.2	1563.3	1575.5	1572.6
7.5°	1575.5	1566.4	1549.6	1561.9	1558.9
10°	1558.9	1548.2	1529.9	1542.0	1537.5
12.5°	1535.9	1526.8	1508.5	1516.1	1513.0
15°	1509.9	1500.9	1481.0	1487.2	1479.5
17.5°	1477.9	1468.8	1448.9	1456.5	1448.9
20°	1442.8	1433.8	1412.4	1416.9	1411.0
22.5°	1407.9	1394.1	1374.2	1374.2	1371.1
25°	1366.6	1354.5	1328.5	1331.5	1328.5
27.5°	1320.8	1310.1	1290.4	1285.8	1278.2
30°	1275.1	1262.9	1240.1	1235.5	1229.4
32.5°	1226.3	1217.2	1192.8	1183.6	1177.5
35°	1179.0	1163.8	1139.4	1130.2	1122.6
37.5°	1125.6	1111.9	1087.4	1076.8	1069.2
40°	1070.8	1058.5	1034.0	1020.4	1014.3
42.5°	1017.4	1005.1	980.8	965.4	956.3
45°	959.4	948.8	925.8	909.1	902.9
47.5°	902.9	892.3	867.9	851.0	842.0
50°	843.4	835.8	814.5	793.1	785.5
52.5°	785.5	774.8	755.0	738.3	727.6
55°	726.1	716.9	698.5	680.3	672.7
57.5°	666.5	658.9	639.0	620.8	614.6
60°	607.0	601.0	579.7	562.8	558.3
62.5°	549.1	538.4	523.2	507.9	501.8
65°	489.7	480.5	465.2	451.5	443.8
67.5°	428.7	420.9	407.3	396.6	390.4
70°	372.2	366.1	352.3	341.6	335.7
72.5°	314.3	308.1	300.5	289.8	285.3
75°	256.2	253.2	245.5	236.4	239.5
77.5°	204.4	198.2	195.2	190.6	186.1
80°	152.6	151.0	147.9	143.4	140.3
82.5°	103.7	103.7	102.2	96.1	96.1
85°	62.5	61.0	59.5	54.9	53.4
87.5°	27.5	24.5	21.4	16.8	15.2
90°	1.4	16.8	45.7	42.9	44.3
92.5°	28.9	39.2	40.6	42.0	42.0
95°	68.1	81.1	83.5	83.5	81.1
97.5°	113.3	125.5	130.6	130.6	130.6
100°	165.6	176.3	180.0	180.0	178.6
102.5°	220.6	228.5	233.7	235.1	233.7
105°	280.8	284.5	287.3	289.7	289.7
107.5°	340.5	346.1	346.1	347.0	340.5
110°	398.4	405.8	405.8	405.8	402.0



TEST NUMBER: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	460.8	468.7	467.3	463.6	460.8
115°	522.4	529.9	527.5	526.1	522.4
117.5°	583.5	593.8	587.2	583.5	579.8
120°	645.1	655.3	645.1	645.1	640.8
122.5°	701.0	714.0	707.5	703.8	701.0
125°	759.8	771.4	767.7	763.5	762.1
127.5°	817.2	831.6	826.5	820.9	817.2
130°	870.8	887.6	885.3	882.5	877.3
132.5°	931.0	944.0	944.9	938.4	934.7
135°	982.8	997.2	1000.0	998.6	994.8
137.5°	1040.6	1052.2	1054.6	1053.6	1048.1
140°	1091.4	1103.1	1109.6	1109.6	1104.5
142.5°	1143.6	1155.3	1159.0	1160.4	1155.3
145°	1193.1	1202.4	1209.9	1211.3	1206.2
147.5°	1237.4	1249.0	1254.7	1256.9	1251.8
150°	1283.1	1291.0	1296.2	1300.3	1296.2
152.5°	1323.6	1331.6	1338.1	1343.3	1338.1
155°	1364.2	1368.0	1372.1	1378.8	1374.5
157.5°	1399.2	1402.1	1404.4	1413.7	1407.2
160°	1430.5	1433.3	1434.7	1442.6	1437.0
162.5°	1459.4	1459.4	1460.8	1469.7	1463.1
165°	1484.1	1482.7	1482.7	1492.1	1485.6
167.5°	1506.5	1502.4	1502.4	1511.6	1505.1
170°	1523.3	1519.6	1518.2	1527.5	1519.6
172.5°	1535.0	1531.2	1529.8	1539.1	1531.2
175°	1544.3	1540.6	1537.7	1547.1	1539.1
177.5°	1549.4	1545.7	1542.9	1550.8	1542.9
180°	1547.1	1547.1	1547.1	1547.1	1547.1

TEST NUMBER: P917977

CATALOG NUMBER: DFN2DIP-TR2F0-050D060US930-FLLONL

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	11.37	12.22	12.34	13.20	14.50	10.95	11.80	11.92	12.78	14.08
	3H	13.01	13.77	13.99	14.76	16.08	12.55	13.31	13.53	14.30	15.62
	4H	13.58	14.30	14.57	15.30	16.62	13.12	13.84	14.11	14.84	16.16
	6H	13.96	14.62	14.97	15.62	16.96	13.50	14.16	14.51	15.16	16.50
	8H	14.05	14.69	15.07	15.70	17.04	13.60	14.23	14.61	15.25	16.58
	12H	14.09	14.69	15.11	15.71	17.07	13.63	14.23	14.65	15.24	16.60
4H	2H	11.82	12.54	12.82	13.54	14.86	11.48	12.20	12.49	13.20	14.53
	3H	13.66	14.26	14.67	15.29	16.63	13.28	13.88	14.29	14.90	16.24
	4H	14.35	14.90	15.37	15.92	17.29	13.96	14.51	14.98	15.53	16.89
	6H	14.85	15.32	15.88	16.36	17.72	14.45	14.92	15.48	15.97	17.32
	8H	14.98	15.43	16.02	16.46	17.84	14.59	15.03	15.62	16.06	17.44
	12H	15.05	15.44	16.10	16.50	17.87	14.64	15.04	15.69	16.09	17.47
8H	4H	14.54	14.98	15.57	16.02	17.39	14.19	14.63	15.22	15.67	17.04
	6H	15.14	15.51	16.20	16.59	17.96	14.79	15.16	15.85	16.23	17.60
	8H	15.35	15.67	16.41	16.73	18.12	14.99	15.31	16.05	16.37	17.76
	12H	15.46	15.75	16.53	16.80	18.24	15.09	15.38	16.16	16.43	17.87
12H	4H	14.52	14.92	15.57	15.97	17.35	14.18	14.58	15.23	15.63	17.01
	6H	15.17	15.49	16.23	16.55	17.94	14.83	15.15	15.89	16.21	17.60
	8H	15.39	15.67	16.46	16.73	18.16	15.05	15.33	16.11	16.39	17.82

END OF REPORT