

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: P926444

Luminaire Tested: DFN2DIP-TR4F0-060D050US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926444
REPORT IS A COMBINATION OF REPORTS P900392 AND P897293
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR4F0-060D050US950-RLLFLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

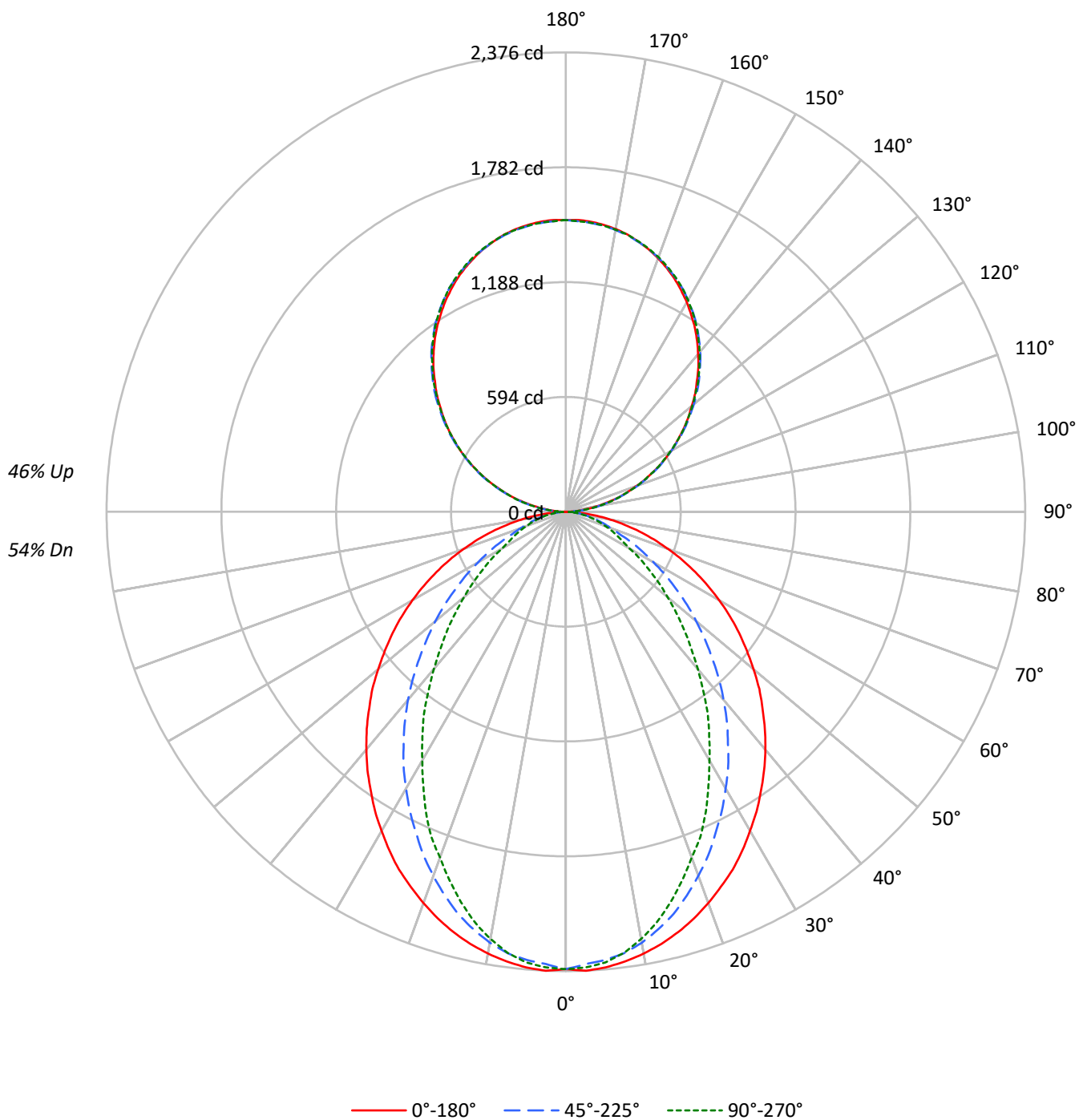
Lumens per Lamp: N/A
Luminaire Lumens: 9086.9 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.43' x L: 3.96' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 91.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

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	84	78	73	84	78	73	68	67	63	60	57	54	52	48	46	44
3	83	74	67	61	77	69	63	58	59	55	51	51	47	44	43	40	38
4	76	66	58	52	71	61	55	49	53	48	44	46	42	38	38	36	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	29	26
7	60	48	40	35	56	45	38	33	39	34	30	34	30	27	29	26	23
8	56	44	36	31	52	41	34	30	36	31	27	31	27	24	27	24	21
9	52	40	33	28	48	38	31	27	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	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1879	1879	1879
5°	1882	1850	1861
10°	1864	1813	1801
15°	1838	1753	1707
20°	1804	1671	1592
25°	1770	1578	1481
30°	1723	1483	1340
35°	1677	1381	1217
40°	1631	1275	1075
45°	1577	1158	946
50°	1521	1040	821
55°	1462	913	700
60°	1395	781	576
65°	1317	647	519
70°	1223	521	469
75°	1105	459	427
80°	933	386	370
85°	651	257	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1577 cd/sqm

TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.7	2.4
10°-20°	608.7	6.7
20°-30°	854.5	9.4
30°-40°	931.5	10.3
40°-50°	856.2	9.4
50°-60°	672.4	7.4
60°-70°	437.7	4.8
70°-80°	225.3	2.5
80°-90°	61.8	0.7
90°-100°	93.4	1.0
100°-110°	296.6	3.3
110°-120°	507.6	5.6
120°-130°	667.5	7.3
130°-140°	749.3	8.2
140°-150°	734.8	8.1
150°-160°	616.4	6.8
160°-170°	408.8	4.5
170°-180°	142.9	1.6
0°-30°	1684.9	18.5
0°-40°	2616.4	28.8
0°-60°	4144.9	45.6
0°-90°	4869.7	53.6
90°-120°	897.5	9.9
90°-150°	3049.2	33.6
90°-180°	4217.0	46.4
0°-180°	9086.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2366	2366	2366	2366	2366	
5°	2366	2355	2327	2346	2340	224
15°	2250	2226	2154	2113	2092	634
25°	2042	1974	1833	1745	1713	939
35°	1760	1651	1462	1327	1280	1102
45°	1439	1295	1071	918	867	1111
55°	1094	927	696	567	527	978
65°	739	565	372	300	293	732
75°	394	244	171	156	154	417
85°	92	47	41	41	41	106
90°	1	16	45	42	43	9
95°	66	79	81	81	79	74
105°	274	277	280	282	282	289
115°	509	517	514	513	509	504
125°	741	752	749	744	743	662
135°	958	972	975	974	970	741
145°	1163	1172	1180	1181	1176	727
155°	1330	1334	1338	1344	1340	612
165°	1447	1446	1446	1455	1449	408
175°	1506	1502	1500	1509	1501	143
180°	1509	1509	1509	1509	1509	

TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2365.7	2365.7	2365.7	2365.7	2365.7
2.5°	2376.4	2365.7	2342.1	2363.6	2359.3
5°	2365.7	2355.0	2327.1	2346.5	2340.1
7.5°	2346.5	2333.7	2303.7	2312.1	2301.4
10°	2320.7	2305.7	2263.1	2256.5	2243.7
12.5°	2288.7	2269.4	2211.5	2198.8	2175.1
15°	2250.1	2226.4	2153.8	2113.1	2091.7
17.5°	2205.2	2170.8	2080.9	2033.8	1999.6
20°	2153.8	2110.8	2003.9	1950.5	1903.2
22.5°	2098.1	2048.8	1924.6	1851.9	1819.9
25°	2042.5	1973.9	1832.6	1745.0	1712.7
27.5°	1976.2	1903.2	1747.0	1646.3	1597.1
30°	1905.5	1824.0	1652.7	1543.7	1485.8
32.5°	1836.9	1738.4	1563.0	1434.4	1380.8
35°	1759.9	1650.7	1462.4	1327.4	1280.2
37.5°	1685.0	1567.0	1368.1	1220.3	1166.8
40°	1605.7	1477.4	1269.5	1117.5	1061.9
42.5°	1524.4	1387.4	1171.1	1012.6	959.2
45°	1438.7	1295.2	1070.6	918.3	867.0
47.5°	1357.4	1205.5	974.2	822.1	775.0
50°	1267.5	1115.5	880.0	732.1	687.4
52.5°	1179.5	1019.0	790.0	648.7	608.1
55°	1094.0	927.0	695.8	567.4	526.7
57.5°	1006.3	834.9	612.4	492.5	458.1
60°	916.3	745.1	524.5	415.5	381.1
62.5°	828.6	657.4	449.5	346.9	329.8
65°	738.7	565.1	372.5	299.8	293.3
67.5°	653.0	479.5	299.8	263.3	256.9
70°	563.1	396.1	248.2	227.0	218.3
72.5°	477.5	318.9	207.6	190.6	186.2
75°	393.9	243.9	171.2	156.3	154.3
77.5°	310.5	173.3	134.9	126.3	122.0
80°	233.3	124.2	102.7	94.3	94.3
82.5°	162.7	83.6	70.6	66.3	66.3
85°	92.0	47.0	40.6	40.6	40.6
87.5°	34.3	17.1	17.1	15.0	15.0
90°	1.3	16.4	44.6	41.9	43.2
92.5°	28.2	38.2	39.6	40.9	40.9
95°	66.4	79.2	81.4	81.4	79.2
97.5°	110.5	122.3	127.4	127.4	127.4
100°	161.4	171.9	175.5	175.5	174.2
102.5°	215.1	222.9	227.8	229.2	227.8
105°	273.8	277.4	280.2	282.4	282.4
107.5°	332.0	337.4	337.4	338.4	332.0
110°	388.4	395.7	395.7	395.7	392.0

TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	449.3	457.1	455.7	452.1	449.3
115°	509.3	516.7	514.4	513.1	509.3
117.5°	569.0	579.0	572.6	569.0	565.3
120°	629.0	639.0	629.0	629.0	624.9
122.5°	683.5	696.3	689.9	686.3	683.5
125°	740.9	752.2	748.6	744.5	743.2
127.5°	796.8	810.9	805.9	800.4	796.8
130°	849.2	865.5	863.2	860.5	855.5
132.5°	907.8	920.5	921.5	915.1	911.5
135°	958.3	972.3	975.1	973.7	970.1
137.5°	1014.7	1026.0	1028.3	1027.4	1021.9
140°	1064.2	1075.6	1081.9	1081.9	1077.0
142.5°	1115.1	1126.6	1130.2	1131.5	1126.6
145°	1163.4	1172.5	1179.7	1181.1	1176.1
147.5°	1206.6	1218.0	1223.4	1225.7	1220.6
150°	1251.2	1258.9	1263.9	1268.0	1263.9
152.5°	1290.8	1298.5	1304.8	1309.8	1304.8
155°	1330.3	1333.9	1338.0	1344.4	1340.3
157.5°	1364.4	1367.1	1369.4	1378.5	1372.1
160°	1394.8	1397.6	1398.9	1406.7	1401.2
162.5°	1423.1	1423.1	1424.4	1433.1	1426.7
165°	1447.2	1445.8	1445.8	1454.9	1448.6
167.5°	1469.0	1464.9	1464.9	1474.0	1467.6
170°	1485.4	1481.8	1480.4	1489.5	1481.8
172.5°	1496.7	1493.1	1491.8	1500.8	1493.1
175°	1505.9	1502.2	1499.5	1508.6	1500.8
177.5°	1510.8	1507.2	1504.5	1512.2	1504.5
180°	1508.6	1508.6	1508.6	1508.6	1508.6

TEST NUMBER: P926444

CATALOG NUMBER: DFN2DIP-TR4F0-060D050US950-RLLFLL

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	9.66	10.52	10.59	11.47	12.69	5.64	6.50	6.57	7.44	8.66
	3H	11.34	12.11	12.29	13.07	14.31	6.83	7.60	7.77	8.55	9.80
	4H	11.95	12.68	12.91	13.64	14.89	7.28	8.01	8.24	8.97	10.22
	6H	12.37	13.04	13.34	14.01	15.27	7.60	8.27	8.57	9.24	10.50
	8H	12.50	13.14	13.48	14.12	15.38	7.70	8.33	8.67	9.31	10.58
	12H	12.56	13.17	13.55	14.14	15.43	7.74	8.35	8.72	9.32	10.61
4H	2H	9.68	10.41	10.65	11.37	12.62	6.23	6.96	7.20	7.92	9.18
	3H	11.52	12.12	12.49	13.11	14.38	7.59	8.19	8.56	9.18	10.45
	4H	12.21	12.76	13.19	13.74	15.04	8.14	8.69	9.12	9.67	10.97
	6H	12.73	13.20	13.72	14.21	15.50	8.56	9.03	9.56	10.04	11.33
	8H	12.90	13.34	13.90	14.34	15.65	8.69	9.13	9.69	10.13	11.44
	12H	13.00	13.40	14.01	14.41	15.72	8.76	9.16	9.77	10.17	11.48
8H	4H	12.18	12.62	13.18	13.62	14.93	8.42	8.86	9.42	9.86	11.17
	6H	12.75	13.11	13.77	14.15	15.46	8.94	9.31	9.96	10.35	11.65
	8H	12.96	13.28	13.99	14.31	15.63	9.13	9.46	10.16	10.48	11.81
	12H	13.10	13.39	14.13	14.41	15.77	9.25	9.54	10.29	10.56	11.93
12H	4H	12.13	12.53	13.15	13.55	14.86	8.43	8.83	9.44	9.84	11.15
	6H	12.72	13.04	13.75	14.07	15.39	8.99	9.31	10.02	10.34	11.66
	8H	12.94	13.23	13.98	14.25	15.62	9.20	9.49	10.24	10.51	11.88

END OF REPORT