

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: P909811

Luminaire Tested: DFN2DIP-TR2F0-060D050US840-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909811
REPORT IS A COMBINATION OF REPORTS P901780 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-060D050US840-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

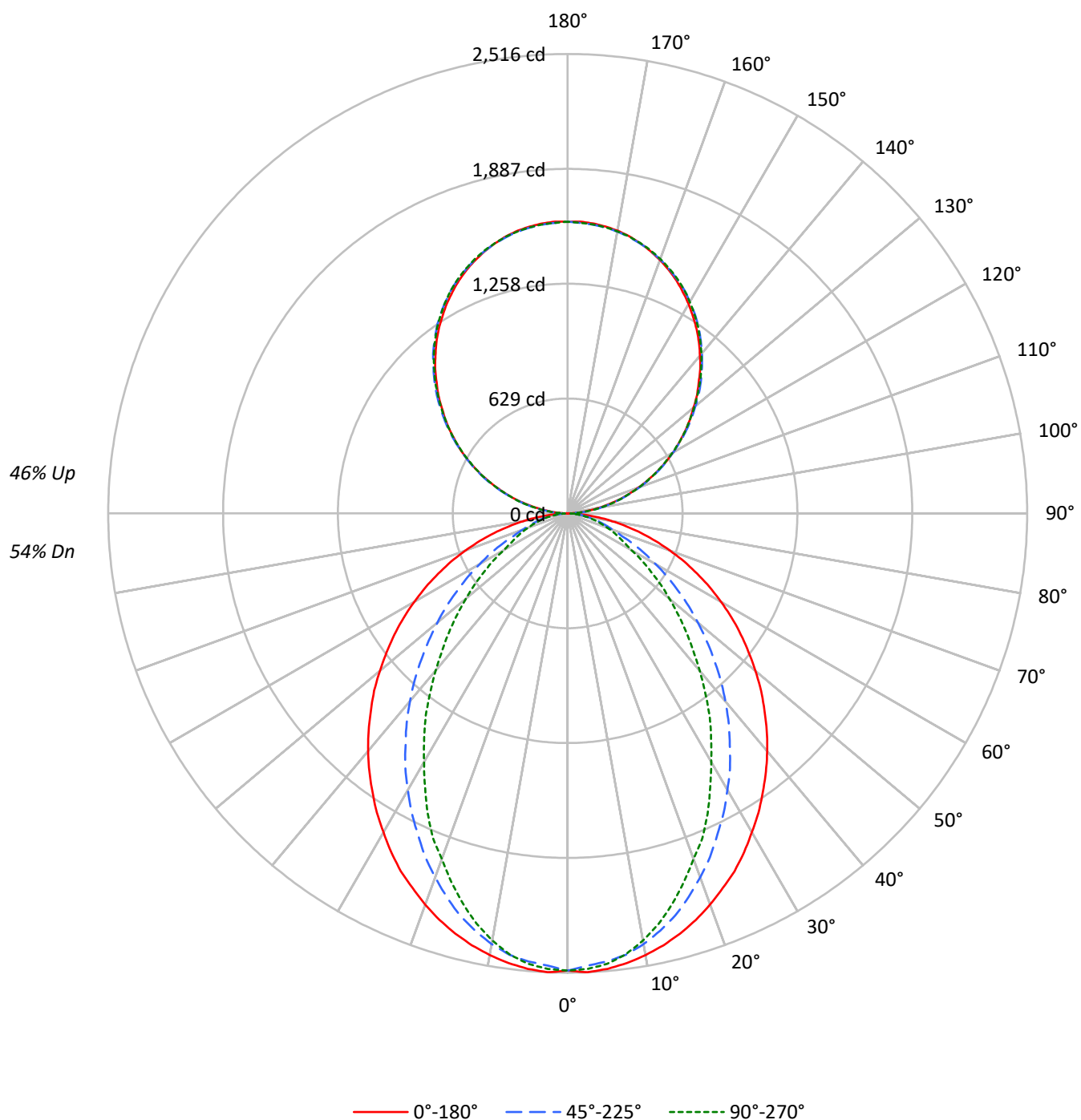
Lumens per Lamp: N/A
Luminaire Lumens: 9619.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 97.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-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	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°	5586	5586	5586
5°	5586	5484	5522
10°	5523	5365	5333
15°	5438	5175	5047
20°	5329	4919	4698
25°	5218	4635	4362
30°	5071	4344	3939
35°	4927	4033	3568
40°	4779	3712	3144
45°	4609	3358	2760
50°	4432	3001	2386
55°	4246	2622	2026
60°	4031	2228	1659
65°	3783	1828	1483
70°	3482	1456	1329
75°	3103	1259	1190
80°	2557	1022	1003
85°	1679	633	706

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4609 cd/sqm

TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-RLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.7	2.4
10°-20°	644.3	6.7
20°-30°	904.6	9.4
30°-40°	986.1	10.3
40°-50°	906.3	9.4
50°-60°	711.7	7.4
60°-70°	463.3	4.8
70°-80°	238.5	2.5
80°-90°	65.4	0.7
90°-100°	98.8	1.0
100°-110°	314.0	3.3
110°-120°	537.3	5.6
120°-130°	706.6	7.3
130°-140°	793.2	8.2
140°-150°	777.8	8.1
150°-160°	652.5	6.8
160°-170°	432.7	4.5
170°-180°	151.2	1.6
0°-30°	1783.6	18.5
0°-40°	2769.6	28.8
0°-60°	4387.7	45.6
0°-90°	5154.9	53.6
90°-120°	950.1	9.9
90°-150°	3227.7	33.6
90°-180°	4464.0	46.4
0°-180°	9619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2504	2504	2504	2504	2504	
5°	2504	2493	2463	2484	2477	237
15°	2382	2357	2280	2237	2214	671
25°	2162	2090	1940	1847	1813	994
35°	1863	1747	1548	1405	1355	1166
45°	1523	1371	1133	972	918	1176
55°	1158	981	736	601	558	1035
65°	782	598	394	317	310	775
75°	417	258	181	165	163	441
85°	97	50	43	43	43	112
90°	1	17	47	44	46	9
95°	70	84	86	86	84	78
105°	290	294	297	299	299	306
115°	539	547	544	543	539	533
125°	784	796	792	788	787	701
135°	1014	1029	1032	1031	1027	784
145°	1232	1241	1249	1250	1245	769
155°	1408	1412	1416	1423	1419	648
165°	1532	1530	1530	1540	1533	432
175°	1594	1590	1587	1597	1589	151
180°	1597	1597	1597	1597	1597	

TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2504.3	2504.3	2504.3	2504.3	2504.3
2.5°	2515.6	2504.3	2479.2	2502.0	2497.5
5°	2504.3	2493.0	2463.4	2483.9	2477.1
7.5°	2483.9	2470.3	2438.6	2447.5	2436.2
10°	2456.6	2440.7	2395.6	2388.6	2375.1
12.5°	2422.8	2402.3	2341.0	2327.5	2302.5
15°	2381.9	2356.8	2279.9	2236.9	2214.2
17.5°	2334.3	2297.9	2202.7	2152.9	2116.7
20°	2279.9	2234.4	2121.2	2064.7	2014.7
22.5°	2221.0	2168.8	2037.3	1960.4	1926.4
25°	2162.1	2089.5	1940.0	1847.1	1813.0
27.5°	2091.9	2014.7	1849.3	1742.7	1690.6
30°	2017.1	1930.8	1749.5	1634.1	1572.8
32.5°	1944.5	1840.2	1654.6	1518.4	1461.7
35°	1863.0	1747.4	1548.0	1405.1	1355.1
37.5°	1783.6	1658.8	1448.2	1291.7	1235.2
40°	1699.7	1563.9	1343.8	1183.0	1124.1
42.5°	1613.7	1468.6	1239.7	1071.9	1015.4
45°	1523.0	1371.0	1133.3	972.1	917.8
47.5°	1436.9	1276.1	1031.3	870.2	820.4
50°	1341.7	1180.8	931.5	775.0	727.6
52.5°	1248.6	1078.6	836.3	686.7	643.7
55°	1158.0	981.3	736.5	600.7	557.5
57.5°	1065.2	883.8	648.2	521.3	484.9
60°	970.0	788.7	555.2	439.8	403.4
62.5°	877.2	695.9	475.8	367.2	349.1
65°	781.9	598.2	394.4	317.4	310.4
67.5°	691.3	507.6	317.4	278.7	272.0
70°	596.0	419.3	262.8	240.2	231.1
72.5°	505.4	337.6	219.7	201.8	197.1
75°	417.0	258.2	181.3	165.4	163.3
77.5°	328.7	183.5	142.8	133.7	129.2
80°	246.9	131.5	108.7	99.8	99.8
82.5°	172.2	88.5	74.7	70.2	70.2
85°	97.4	49.8	43.0	43.0	43.0
87.5°	36.4	18.1	18.1	15.9	15.9
90°	1.4	17.4	47.2	44.3	45.7
92.5°	29.9	40.4	41.9	43.3	43.3
95°	70.3	83.8	86.1	86.1	83.8
97.5°	116.9	129.5	134.8	134.8	134.8
100°	170.9	182.0	185.8	185.8	184.4
102.5°	227.7	235.9	241.2	242.7	241.2
105°	289.8	293.7	296.6	298.9	298.9
107.5°	351.4	357.2	357.2	358.2	351.4
110°	411.1	418.9	418.9	418.9	415.0



TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	475.6	483.8	482.4	478.6	475.6
115°	539.2	546.9	544.5	543.1	539.2
117.5°	602.3	612.9	606.1	602.3	598.4
120°	665.8	676.4	665.8	665.8	661.5
122.5°	723.6	737.1	730.3	726.5	723.6
125°	784.3	796.3	792.4	788.1	786.7
127.5°	843.4	858.4	853.1	847.3	843.4
130°	898.9	916.2	913.7	910.9	905.5
132.5°	961.0	974.4	975.4	968.7	964.8
135°	1014.4	1029.3	1032.2	1030.8	1026.9
137.5°	1074.1	1086.1	1088.5	1087.5	1081.8
140°	1126.5	1138.6	1145.3	1145.3	1140.0
142.5°	1180.4	1192.6	1196.4	1197.8	1192.6
145°	1231.5	1241.1	1248.8	1250.3	1245.0
147.5°	1277.3	1289.3	1295.1	1297.5	1292.1
150°	1324.4	1332.6	1337.9	1342.2	1337.9
152.5°	1366.3	1374.5	1381.2	1386.5	1381.2
155°	1408.2	1412.0	1416.3	1423.1	1418.8
157.5°	1444.3	1447.1	1449.6	1459.3	1452.5
160°	1476.5	1479.5	1480.9	1489.0	1483.3
162.5°	1506.4	1506.4	1507.8	1517.0	1510.3
165°	1532.0	1530.5	1530.5	1540.1	1533.4
167.5°	1555.0	1550.6	1550.6	1560.3	1553.6
170°	1572.4	1568.5	1567.1	1576.7	1568.5
172.5°	1584.4	1580.5	1579.1	1588.7	1580.5
175°	1594.1	1590.1	1587.3	1596.9	1588.7
177.5°	1599.3	1595.5	1592.6	1600.7	1592.6
180°	1596.9	1596.9	1596.9	1596.9	1596.9

TEST NUMBER: P909811

CATALOG NUMBER: DFN2DIP-TR2F0-060D050US840-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	13.32	14.18	14.26	15.13	16.35	9.30	10.17	10.24	11.11	12.33
	3H	14.98	15.75	15.92	16.70	17.95	10.48	11.25	11.43	12.20	13.45
	4H	15.57	16.30	16.53	17.26	18.51	10.92	11.65	11.88	12.61	13.86
	6H	15.98	16.65	16.95	17.61	18.88	11.23	11.90	12.20	12.86	14.13
	8H	16.09	16.73	17.07	17.71	18.98	11.31	11.95	12.29	12.93	14.20
	12H	16.15	16.75	17.13	17.73	19.02	11.35	11.96	12.33	12.93	14.22
4H	2H	13.34	14.07	14.31	15.03	16.28	9.89	10.62	10.86	11.58	12.83
	3H	15.15	15.75	16.12	16.74	18.01	11.23	11.83	12.20	12.82	14.09
	4H	15.82	16.37	16.80	17.36	18.65	11.76	12.31	12.74	13.30	14.59
	6H	16.32	16.79	17.31	17.80	19.09	12.17	12.64	13.16	13.65	14.94
	8H	16.48	16.92	17.47	17.92	19.23	12.29	12.73	13.28	13.73	15.03
	12H	16.56	16.96	17.58	17.98	19.29	12.34	12.74	13.36	13.76	15.07
8H	4H	15.79	16.23	16.78	17.23	18.53	12.03	12.47	13.03	13.47	14.78
	6H	16.33	16.69	17.35	17.74	19.04	12.53	12.89	13.55	13.93	15.24
	8H	16.53	16.85	17.56	17.88	19.20	12.71	13.03	13.73	14.06	15.38
	12H	16.65	16.94	17.69	17.96	19.33	12.81	13.10	13.84	14.12	15.48
12H	4H	15.74	16.14	16.75	17.15	18.46	12.03	12.43	13.05	13.45	14.76
	6H	16.30	16.63	17.33	17.65	18.98	12.57	12.89	13.60	13.92	15.24
	8H	16.51	16.79	17.54	17.81	19.18	12.77	13.05	13.80	14.07	15.44

END OF REPORT