

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: P909864

Luminaire Tested: DFN2DIP-TR3F0-040D080US840-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909864
REPORT IS A COMBINATION OF REPORTS P900344 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-040D080US840-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

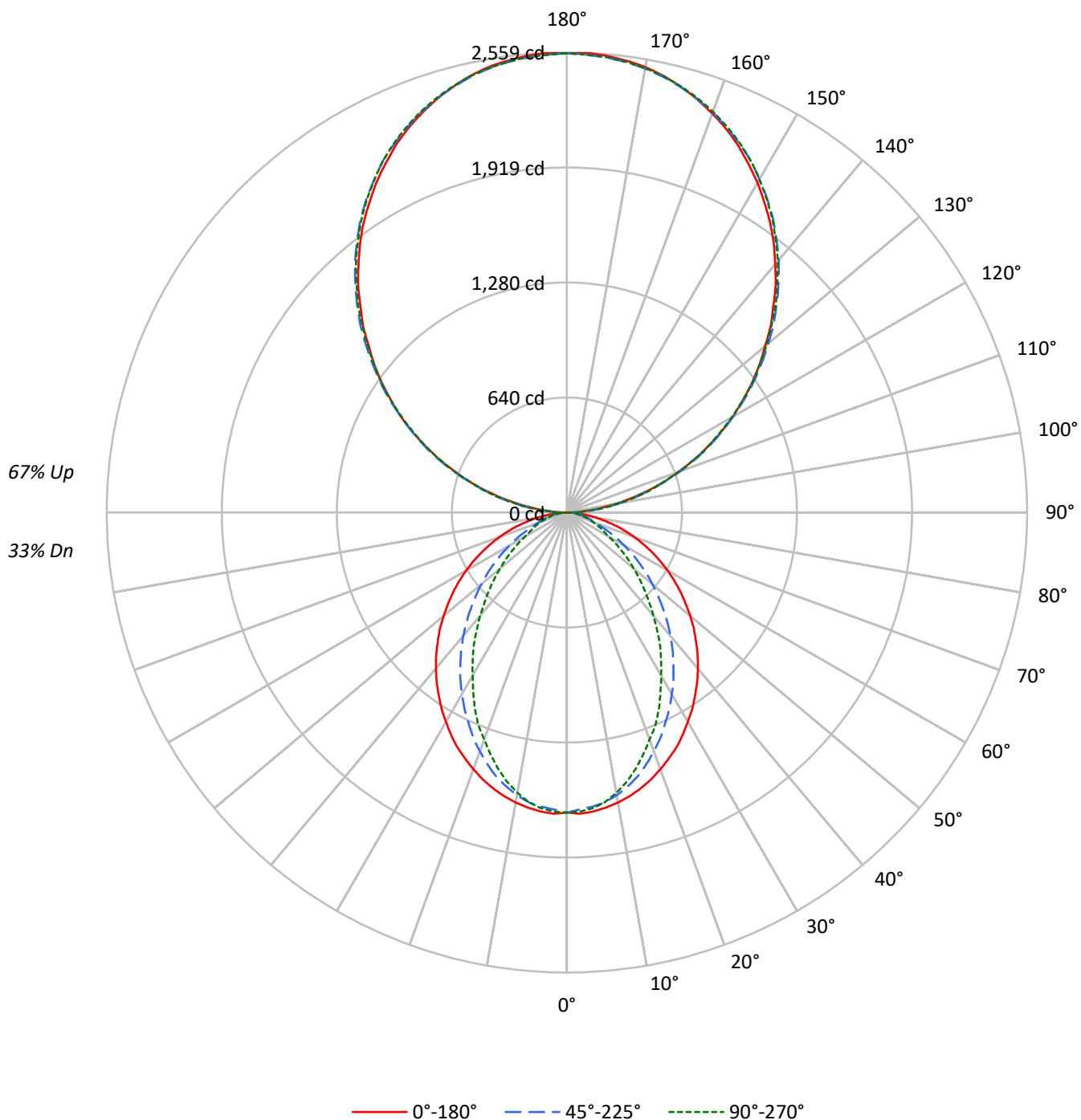
Lumens per Lamp: N/A
Luminaire Lumens: 10583.4 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 96.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-RLFL

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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40
1	94	90	86	83	85	81	78	75	65	63	61	50	48	47	36	35	34
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	29
3	79	70	63	57	71	63	57	52	51	46	43	39	36	34	29	27	25
4	72	62	54	49	65	56	50	45	45	41	37	35	32	29	26	24	22
5	66	55	47	42	59	50	43	38	40	36	32	32	28	26	23	21	19
6	61	49	42	36	55	45	38	33	36	32	28	29	25	23	21	19	17
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	19	17	15
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13
10	45	34	27	22	41	31	25	21	25	21	18	20	17	15	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2080	2080	2080
5°	2083	2046	2059
10°	2061	2004	1991
15°	2031	1936	1886
20°	1993	1843	1758
25°	1953	1739	1634
30°	1900	1633	1477
35°	1848	1519	1340
40°	1796	1401	1183
45°	1734	1270	1040
50°	1671	1138	901
55°	1605	998	767
60°	1528	851	630
65°	1439	702	566
70°	1332	564	510
75°	1197	493	461
80°	1001	408	396
85°	681	264	289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2495 cd/sqm

TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.5	1.5
10°-20°	429.5	4.1
20°-30°	603.0	5.7
30°-40°	657.4	6.2
40°-50°	604.2	5.7
50°-60°	474.5	4.5
60°-70°	308.9	2.9
70°-80°	159.0	1.5
80°-90°	47.9	0.5
90°-100°	158.1	1.5
100°-110°	502.4	4.7
110°-120°	859.7	8.1
120°-130°	1130.6	10.7
130°-140°	1269.1	12.0
140°-150°	1244.5	11.8
150°-160°	1043.9	9.9
160°-170°	692.3	6.5
170°-180°	242.0	2.3
0°-30°	1189.0	11.2
0°-40°	1846.4	17.4
0°-60°	2925.1	27.6
0°-90°	3440.8	32.5
90°-120°	1520.1	14.4
90°-150°	5164.3	48.8
90°-180°	7143.0	67.5
0°-180°	10583.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1670	1670	1670	1670	1670	
5°	1670	1662	1642	1656	1651	158
15°	1588	1571	1520	1491	1476	447
25°	1441	1393	1293	1231	1209	663
35°	1242	1165	1032	937	903	777
45°	1015	914	756	648	612	784
55°	772	654	491	400	372	690
65°	521	399	263	212	207	517
75°	278	172	121	110	109	294
85°	65	33	29	29	29	75
90°	2	28	76	71	73	10
95°	112	134	138	138	134	125
105°	464	470	474	478	478	489
115°	863	875	871	869	863	853
125°	1255	1274	1268	1261	1259	1121
135°	1623	1647	1652	1649	1643	1254
145°	1970	1986	1998	2000	1992	1231
155°	2253	2259	2266	2277	2270	1037
165°	2451	2449	2449	2464	2453	691
175°	2550	2544	2540	2555	2542	242
180°	2555	2555	2555	2555	2555	

TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-RLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1669.5	1669.5	1669.5	1669.5	1669.5
2.5°	1677.1	1669.5	1652.8	1668.1	1665.0
5°	1669.5	1661.9	1642.2	1655.9	1651.4
7.5°	1655.9	1646.9	1625.8	1631.6	1624.2
10°	1637.8	1627.2	1597.0	1592.4	1583.5
12.5°	1615.2	1601.5	1560.6	1551.7	1535.0
15°	1587.9	1571.2	1519.9	1491.3	1476.2
17.5°	1556.2	1532.0	1468.4	1435.3	1411.1
20°	1519.9	1489.7	1414.1	1376.4	1343.1
22.5°	1480.7	1445.9	1358.2	1306.9	1284.3
25°	1441.4	1393.0	1293.2	1231.4	1208.6
27.5°	1394.6	1343.1	1232.8	1161.9	1127.0
30°	1344.7	1287.2	1166.3	1089.3	1048.5
32.5°	1296.4	1226.8	1103.0	1012.3	974.4
35°	1242.0	1164.9	1032.0	936.8	903.4
37.5°	1189.1	1105.9	965.4	861.1	823.4
40°	1133.2	1042.6	896.0	788.7	749.4
42.5°	1075.7	979.1	826.5	714.6	676.9
45°	1015.3	914.0	755.5	648.1	611.9
47.5°	958.0	850.7	687.5	580.2	546.9
50°	894.4	787.2	621.0	516.6	485.0
52.5°	832.4	719.1	557.5	457.8	429.1
55°	772.0	654.2	491.0	400.4	371.7
57.5°	710.1	589.3	432.1	347.5	323.4
60°	646.6	525.7	370.1	293.2	269.0
62.5°	584.8	463.9	317.2	244.8	232.8
65°	521.3	398.8	262.9	211.6	206.9
67.5°	460.9	338.4	211.6	185.8	181.3
70°	397.4	279.5	175.2	160.2	154.0
72.5°	337.0	225.1	146.5	134.5	131.5
75°	277.9	172.2	120.9	110.3	108.9
77.5°	219.1	122.3	95.2	89.2	86.0
80°	164.6	87.7	72.4	66.6	66.6
82.5°	114.8	59.0	49.9	46.8	46.8
85°	64.9	33.2	28.7	28.7	28.7
87.5°	24.2	12.0	12.0	10.6	10.6
90°	2.3	27.8	75.5	70.9	73.2
92.5°	47.8	64.7	67.1	69.3	69.3
95°	112.5	134.0	137.8	137.8	134.0
97.5°	187.2	207.2	215.7	215.7	215.7
100°	273.5	291.1	297.3	297.3	295.0
102.5°	364.4	377.5	385.9	388.2	385.9
105°	463.7	469.9	474.5	478.4	478.4
107.5°	562.3	571.6	571.6	573.1	562.3
110°	657.8	670.1	670.1	670.1	664.0

TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	761.0	774.2	771.8	765.7	761.0
115°	862.7	875.0	871.2	868.9	862.7
117.5°	963.6	980.6	969.8	963.6	957.5
120°	1065.3	1082.3	1065.3	1065.3	1058.3
122.5°	1157.7	1179.3	1168.5	1162.4	1157.7
125°	1254.8	1274.0	1267.9	1260.9	1258.7
127.5°	1349.6	1373.4	1364.9	1355.7	1349.6
130°	1438.1	1465.8	1462.0	1457.4	1449.0
132.5°	1537.5	1559.0	1560.6	1549.8	1543.7
135°	1623.0	1646.9	1651.5	1649.2	1643.1
137.5°	1718.5	1737.8	1741.6	1740.1	1730.8
140°	1802.5	1821.7	1832.5	1832.5	1824.0
142.5°	1888.8	1908.0	1914.2	1916.5	1908.0
145°	1970.4	1985.8	1998.1	2000.4	1992.0
147.5°	2043.6	2062.9	2072.0	2076.0	2067.5
150°	2119.1	2132.1	2140.6	2147.6	2140.6
152.5°	2186.1	2199.2	2210.0	2218.5	2210.0
155°	2253.1	2259.3	2266.2	2276.9	2270.1
157.5°	2310.9	2315.5	2319.4	2334.7	2324.0
160°	2362.5	2367.1	2369.4	2382.5	2373.3
162.5°	2410.2	2410.2	2412.6	2427.2	2416.4
165°	2451.0	2448.7	2448.7	2464.2	2453.4
167.5°	2488.0	2481.1	2481.1	2496.5	2485.7
170°	2515.8	2509.6	2507.3	2522.7	2509.6
172.5°	2535.1	2528.9	2526.6	2541.9	2528.9
175°	2550.4	2544.3	2539.6	2555.1	2541.9
177.5°	2558.9	2552.7	2548.1	2561.2	2548.1
180°	2555.1	2555.1	2555.1	2555.1	2555.1

TEST NUMBER: P909864

CATALOG NUMBER: DFN2DIP-TR3F0-040D080US840-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	7.74	8.45	8.84	9.54	11.04	3.72	4.42	4.82	5.51	7.02
	3H	9.40	10.03	10.51	11.13	12.65	4.89	5.52	6.00	6.62	8.14
	4H	9.99	10.59	11.11	11.69	13.22	5.33	5.93	6.45	7.03	8.56
	6H	10.40	10.95	11.53	12.06	13.59	5.64	6.19	6.77	7.30	8.83
	8H	10.52	11.04	11.65	12.16	13.69	5.72	6.25	6.85	7.37	8.90
	12H	10.57	11.07	11.71	12.18	13.74	5.76	6.26	6.90	7.37	8.93
4H	2H	7.74	8.34	8.87	9.44	10.97	4.29	4.89	5.42	5.99	7.52
	3H	9.55	10.05	10.68	11.17	12.71	5.62	6.12	6.75	7.25	8.79
	4H	10.23	10.69	11.36	11.80	13.36	6.16	6.62	7.30	7.74	9.30
	6H	10.73	11.12	11.87	12.26	13.81	6.57	6.96	7.71	8.10	9.65
	8H	10.89	11.26	12.03	12.39	13.96	6.69	7.06	7.83	8.19	9.76
	12H	10.98	11.31	12.13	12.45	14.02	6.75	7.08	7.90	8.22	9.79
8H	4H	10.19	10.55	11.33	11.68	13.25	6.43	6.79	7.57	7.92	9.49
	6H	10.74	11.04	11.90	12.21	13.78	6.93	7.23	8.09	8.41	9.97
	8H	10.95	11.21	12.11	12.36	13.95	7.12	7.38	8.29	8.54	10.12
	12H	11.07	11.30	12.24	12.45	14.07	7.23	7.46	8.40	8.61	10.23
12H	4H	10.13	10.46	11.29	11.61	13.18	6.42	6.76	7.58	7.90	9.47
	6H	10.71	10.97	11.88	12.13	13.71	6.98	7.24	8.15	8.40	9.98
	8H	10.92	11.15	12.09	12.30	13.92	7.18	7.41	8.35	8.56	10.18