

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: P923537

Luminaire Tested: DFN2DIP-TR3F0-060D030US940-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P923537
REPORT IS A COMBINATION OF REPORTS P901798 AND P898751
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-060D030US940-RLLONL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

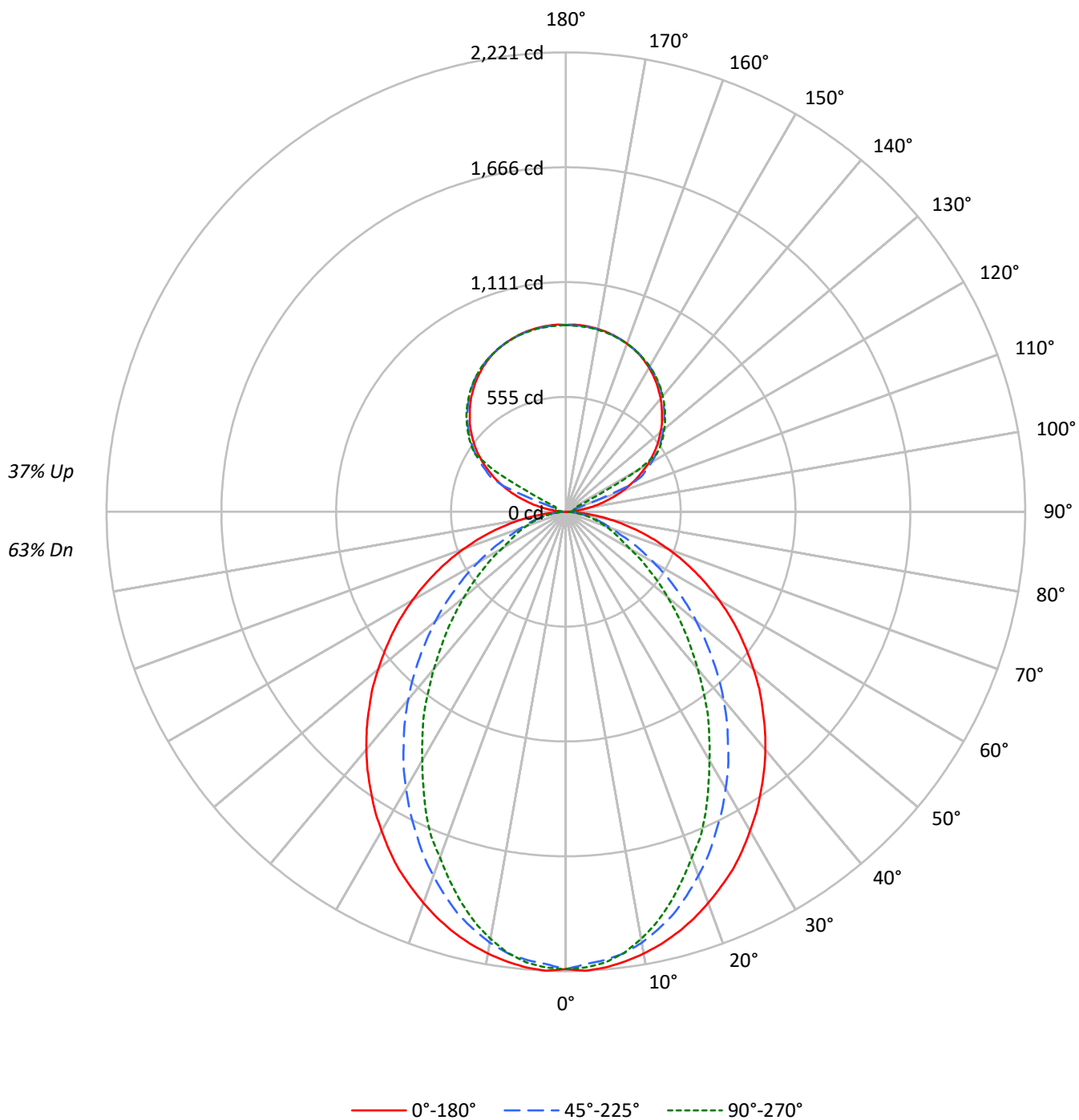
Lumens per Lamp: N/A
Luminaire Lumens: 7196.1 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 80.1
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

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Luminous Intensity Polar Plot



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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
RCR																	
0	110	110	110	110	103	103	103	103	91	91	91		79	79	79		68
1	101	97	93	90	95	91	88	85	80	78	76		71	69	67		61
2	93	86	80	75	87	81	75	71	71	67	64		63	60	57		55
3	85	76	69	63	80	72	65	60	63	58	54		56	52	49		49
4	78	68	60	54	73	64	57	52	57	51	47		50	46	43		44
5	72	61	53	47	67	57	50	45	51	45	41		46	41	37		40
6	67	55	47	41	62	52	45	39	46	41	36		41	37	33		37
7	62	50	42	36	58	47	40	35	42	36	32		38	33	30		34
8	58	45	38	32	54	43	36	31	39	33	29		35	30	27		31
9	54	42	34	29	51	40	33	28	36	30	26		32	27	24		29
10	50	38	31	26	47	37	30	25	33	28	24		30	25	22		27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2756	2756	2756
5°	2758	2709	2727
10°	2730	2654	2637
15°	2690	2564	2498
20°	2639	2441	2328
25°	2587	2303	2164
30°	2517	2163	1957
35°	2448	2011	1775
40°	2378	1855	1567
45°	2297	1682	1378
50°	2213	1508	1194
55°	2125	1322	1016
60°	2024	1128	835
65°	1907	930	749
70°	1764	746	675
75°	1585	653	611
80°	1326	540	524
85°	903	350	383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2297 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.2	2.9
10°-20°	568.9	7.9
20°-30°	798.7	11.1
30°-40°	870.7	12.1
40°-50°	800.3	11.1
50°-60°	628.5	8.7
60°-70°	409.1	5.7
70°-80°	210.6	2.9
80°-90°	55.4	0.8
90°-100°	29.8	0.4
100°-110°	111.0	1.5
110°-120°	294.3	4.1
120°-130°	488.2	6.8
130°-140°	518.5	7.2
140°-150°	481.9	6.7
150°-160°	387.5	5.4
160°-170°	249.7	3.5
170°-180°	85.9	1.2
0°-30°	1574.9	21.9
0°-40°	2445.6	34.0
0°-60°	3874.3	53.8
0°-90°	4549.3	63.2
90°-120°	435.1	6.0
90°-150°	1923.7	26.7
90°-180°	2647.0	36.8
0°-180°	7196.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2211	2211	2211	2211	2211	
5°	2211	2201	2175	2193	2187	210
15°	2103	2081	2013	1975	1955	593
25°	1909	1845	1713	1631	1601	878
35°	1645	1543	1367	1241	1197	1030
45°	1345	1211	1001	858	810	1039
55°	1022	866	650	530	492	914
65°	690	528	348	280	274	685
75°	368	228	160	146	144	389
85°	86	44	38	38	38	99
90°	1	8	13	16	18	7
95°	42	21	25	29	28	50
105°	199	218	40	47	50	212
115°	376	387	403	101	54	370
125°	531	540	552	557	559	474
135°	657	668	674	680	679	508
145°	762	762	773	777	774	477
155°	840	834	841	845	840	387
165°	884	881	883	887	883	250
175°	905	900	902	906	900	86
180°	903	903	903	903	903	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2211.3	2211.3	2211.3	2211.3	2211.3
2.5°	2221.3	2211.3	2189.1	2209.3	2205.3
5°	2211.3	2201.3	2175.1	2193.3	2187.3
7.5°	2193.3	2181.3	2153.3	2161.1	2151.2
10°	2169.2	2155.2	2115.3	2109.2	2097.2
12.5°	2139.3	2121.2	2067.1	2055.2	2033.1
15°	2103.2	2081.1	2013.1	1975.1	1955.2
17.5°	2061.2	2029.1	1945.0	1901.0	1869.0
20°	2013.1	1973.0	1873.0	1823.1	1779.0
22.5°	1961.1	1915.0	1798.9	1731.0	1701.0
25°	1909.2	1845.0	1713.0	1631.0	1600.9
27.5°	1847.2	1779.0	1632.9	1538.8	1492.8
30°	1781.1	1704.9	1544.8	1442.9	1388.7
32.5°	1717.0	1624.9	1461.0	1340.8	1290.7
35°	1645.0	1542.9	1366.9	1240.7	1196.6
37.5°	1574.9	1464.7	1278.8	1140.6	1090.7
40°	1500.8	1380.9	1186.6	1044.5	992.6
42.5°	1424.9	1296.8	1094.7	946.5	896.6
45°	1344.8	1210.6	1000.7	858.4	810.4
47.5°	1268.8	1126.8	910.6	768.4	724.4
50°	1184.7	1042.7	822.5	684.3	642.5
52.5°	1102.5	952.4	738.4	606.4	568.4
55°	1022.5	866.5	650.3	530.4	492.3
57.5°	940.6	780.4	572.4	460.3	428.2
60°	856.5	696.4	490.3	388.3	356.2
62.5°	774.5	614.5	420.2	324.2	308.3
65°	690.5	528.2	348.2	280.3	274.1
67.5°	610.4	448.2	280.3	246.1	240.1
70°	526.3	370.2	232.0	212.1	204.0
72.5°	446.3	298.1	194.0	178.2	174.1
75°	368.2	228.0	160.1	146.1	144.2
77.5°	290.3	162.0	126.1	118.1	114.0
80°	218.0	116.1	95.9	88.1	88.1
82.5°	152.0	78.1	66.0	62.0	62.0
85°	86.0	44.0	38.0	38.0	38.0
87.5°	32.1	16.0	16.0	14.0	14.0
90°	0.6	7.8	13.0	16.4	17.6
92.5°	16.4	13.7	15.7	17.0	17.6
95°	42.4	20.9	25.4	28.8	28.1
97.5°	76.4	22.9	33.3	35.3	35.9
100°	115.7	26.1	37.3	42.4	43.8
102.5°	158.7	157.5	38.5	45.7	47.7
105°	198.6	218.2	39.9	47.0	49.7
107.5°	245.0	261.3	41.2	48.3	51.0
110°	289.4	303.1	114.3	49.0	51.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	331.3	343.0	331.9	50.3	52.3
115°	375.6	386.7	403.1	100.6	53.6
117.5°	414.2	427.2	438.4	344.9	173.8
120°	457.3	467.1	478.8	486.7	398.5
122.5°	493.8	504.4	517.5	521.3	522.0
125°	531.1	539.6	552.1	556.6	558.6
127.5°	565.1	574.2	584.1	590.6	591.2
130°	597.1	607.6	614.7	621.9	621.3
132.5°	629.7	638.3	645.4	651.3	650.7
135°	657.2	667.7	673.5	680.1	678.8
137.5°	685.9	693.8	700.3	706.9	704.9
140°	714.0	719.3	726.4	732.3	729.1
142.5°	737.6	742.2	750.6	755.8	752.6
145°	762.4	761.7	772.8	777.4	774.1
147.5°	783.9	781.9	793.1	796.3	793.7
150°	804.9	800.3	810.7	814.6	811.4
152.5°	822.4	817.3	827.1	831.0	826.4
155°	839.5	833.7	841.4	845.3	840.2
157.5°	853.2	848.0	853.9	858.4	853.2
160°	865.0	861.0	865.0	868.9	864.2
162.5°	875.4	871.5	874.8	879.3	873.4
165°	884.5	880.7	882.6	887.2	882.6
167.5°	891.7	887.8	889.7	894.4	888.5
170°	897.6	893.7	895.0	899.6	893.7
172.5°	901.5	897.6	898.9	903.5	897.6
175°	904.7	900.2	901.5	906.1	899.6
177.5°	906.1	901.5	902.2	906.8	900.9
180°	902.9	902.9	902.9	902.9	902.9

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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	11.77	12.72	12.61	13.58	14.65	7.75	8.70	8.59	9.56	10.63
	3H	13.45	14.30	14.30	15.17	16.27	8.94	9.79	9.79	10.66	11.76
	4H	14.05	14.86	14.93	15.73	16.84	9.39	10.19	10.26	11.07	12.18
	6H	14.47	15.21	15.36	16.10	17.22	9.71	10.45	10.60	11.33	12.46
	8H	14.60	15.30	15.49	16.20	17.32	9.80	10.51	10.70	11.41	12.53
	12H	14.66	15.33	15.56	16.22	17.37	9.85	10.52	10.75	11.41	12.56
4H	2H	11.80	12.60	12.68	13.48	14.59	8.35	9.15	9.23	10.03	11.14
	3H	13.63	14.30	14.52	15.20	16.33	9.71	10.37	10.59	11.28	12.40
	4H	14.32	14.93	15.22	15.83	16.98	10.25	10.86	11.15	11.76	12.92
	6H	14.83	15.36	15.75	16.28	17.44	10.67	11.20	11.59	12.12	13.28
	8H	15.00	15.49	15.92	16.41	17.58	10.80	11.29	11.72	12.21	13.38
	12H	15.10	15.54	16.03	16.48	17.65	10.87	11.31	11.80	12.25	13.42
8H	4H	14.30	14.78	15.21	15.70	16.87	10.54	11.02	11.45	11.95	13.11
	6H	14.86	15.26	15.80	16.22	17.39	11.05	11.45	11.99	12.42	13.58
	8H	15.07	15.42	16.02	16.38	17.56	11.24	11.60	12.19	12.55	13.73
	12H	15.20	15.52	16.16	16.46	17.70	11.36	11.67	12.31	12.62	13.85
12H	4H	14.25	14.69	15.19	15.63	16.80	10.55	10.98	11.48	11.93	13.10
	6H	14.83	15.19	15.78	16.14	17.33	11.10	11.46	12.05	12.41	13.59
	8H	15.05	15.36	16.00	16.31	17.54	11.31	11.62	12.26	12.57	13.80