

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: P909731

Luminaire Tested: DFN2DIP-TR2F0-020D050US840-RLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P909731
REPORT IS A COMBINATION OF REPORTS P901772 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-020D050US840-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

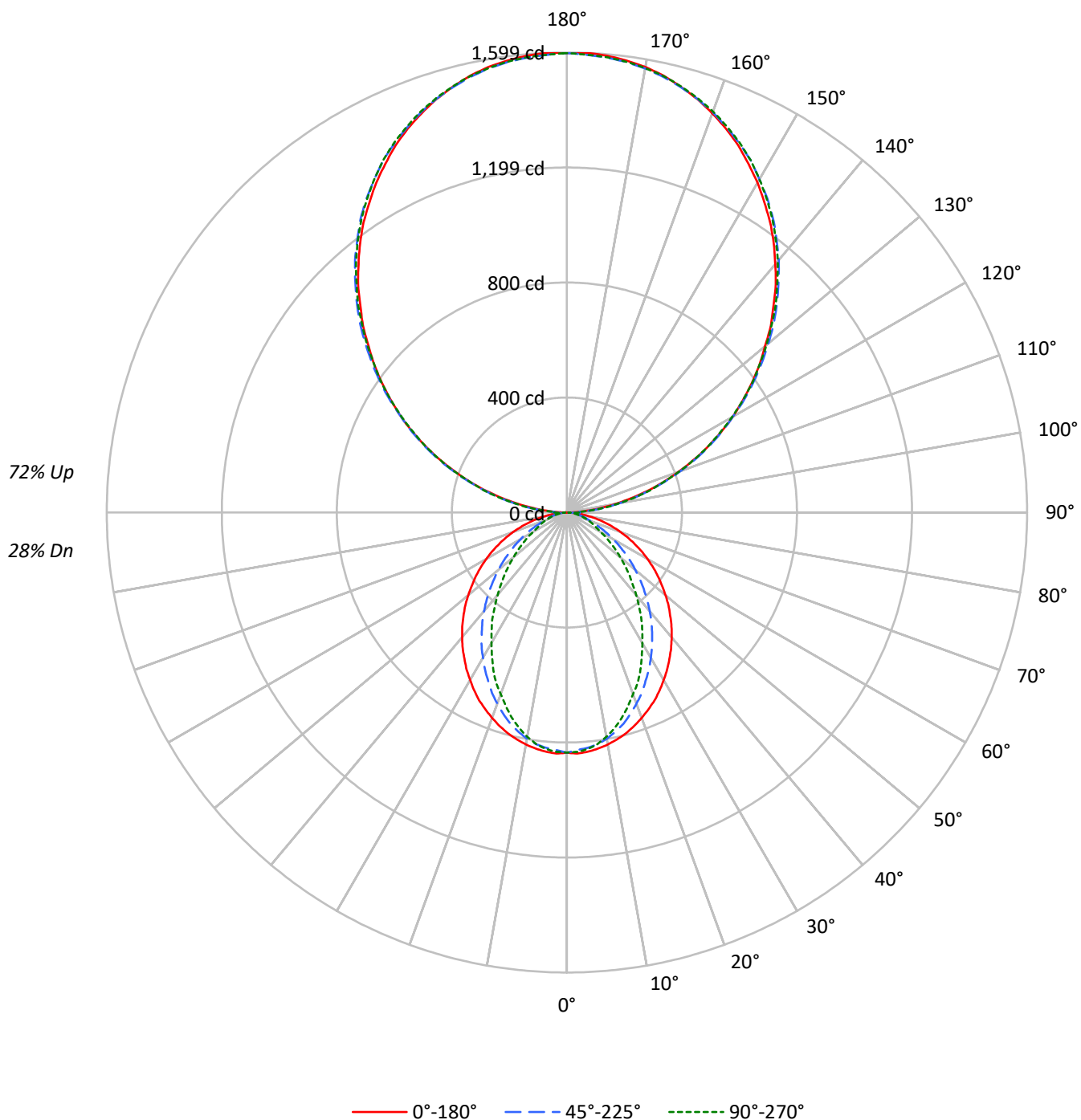
Lumens per Lamp: N/A
Luminaire Lumens: 6185.4 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 53.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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	30	10
RCR																					
0	102	102	102	102		91	91	91	91		71	71	71		53	53	53		36	36	36
1	93	89	85	82		83	80	77	74		62	60	59		47	45	44		32	31	31
2	85	78	72	67		76	70	65	61		55	52	49		41	39	37		28	27	26
3	78	69	62	56		69	62	56	51		49	45	41		37	34	32		25	24	23
4	71	61	53	48		63	55	48	44		43	39	35		33	30	27		23	21	20
5	65	54	47	41		58	49	42	37		39	34	31		29	26	24		21	19	17
6	60	49	41	35		54	44	37	32		35	30	27		27	23	21		19	17	15
7	55	44	36	31		50	40	33	28		32	27	23		24	21	19		17	15	14
8	51	40	32	27		46	36	30	25		29	24	21		22	19	16		16	14	12
9	48	36	29	24		43	33	27	22		26	22	19		20	17	15		15	13	11
10	45	33	26	22		40	30	24	20		24	20	17		19	16	13		14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1862	1862	1862
5°	1862	1828	1841
10°	1841	1788	1778
15°	1813	1725	1682
20°	1776	1640	1566
25°	1739	1545	1454
30°	1690	1448	1313
35°	1642	1344	1189
40°	1593	1237	1048
45°	1536	1119	920
50°	1478	1000	795
55°	1415	874	675
60°	1344	743	553
65°	1261	610	494
70°	1160	485	443
75°	1034	419	396
80°	852	341	334
85°	559	211	235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2084 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	1.3
10°-20°	214.8	3.5
20°-30°	301.5	4.9
30°-40°	328.7	5.3
40°-50°	302.1	4.9
50°-60°	237.3	3.8
60°-70°	154.4	2.5
70°-80°	79.5	1.3
80°-90°	24.8	0.4
90°-100°	98.8	1.6
100°-110°	314.0	5.1
110°-120°	537.3	8.7
120°-130°	706.6	11.4
130°-140°	793.2	12.8
140°-150°	777.8	12.6
150°-160°	652.5	10.5
160°-170°	432.7	7.0
170°-180°	151.2	2.4
0°-30°	594.5	9.6
0°-40°	923.2	14.9
0°-60°	1462.6	23.6
0°-90°	1721.3	27.8
90°-120°	950.1	15.4
90°-150°	3227.7	52.2
90°-180°	4464.0	72.2
0°-180°	6185.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	835	835	835	835	835	
5°	835	831	821	828	826	79
15°	794	786	760	746	738	224
25°	721	696	647	616	604	331
35°	621	582	516	468	452	389
45°	508	457	378	324	306	392
55°	386	327	246	200	186	345
65°	261	199	132	106	104	258
75°	139	86	60	55	54	147
85°	32	17	14	14	14	37
90°	1	17	47	44	46	6
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	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	834.8	834.8	834.8	834.8	834.8
2.5°	838.5	834.8	826.4	834.0	832.5
5°	834.8	831.0	821.1	828.0	825.7
7.5°	828.0	823.4	812.8	815.9	812.0
10°	818.9	813.5	798.5	796.2	791.7
12.5°	807.6	800.7	780.3	775.9	767.5
15°	794.0	785.6	759.9	745.6	738.1
17.5°	778.1	766.0	734.3	717.6	705.6
20°	759.9	744.8	707.1	688.2	671.6
22.5°	740.3	723.0	679.1	653.5	642.2
25°	720.7	696.5	646.6	615.7	604.3
27.5°	697.3	671.6	616.4	580.9	563.5
30°	672.4	643.6	583.2	544.7	524.2
32.5°	648.1	613.4	551.5	506.1	487.3
35°	621.0	582.5	516.0	468.4	451.7
37.5°	594.5	552.9	482.7	430.6	411.7
40°	566.5	521.3	448.0	394.4	374.7
42.5°	537.9	489.6	413.2	357.3	338.5
45°	507.7	457.0	377.8	324.1	305.9
47.5°	479.0	425.4	343.8	290.0	273.5
50°	447.3	393.6	310.5	258.3	242.6
52.5°	416.2	359.5	278.7	228.9	214.6
55°	386.0	327.1	245.5	200.3	185.8
57.5°	355.1	294.6	216.1	173.8	161.7
60°	323.4	262.9	185.1	146.6	134.5
62.5°	292.4	232.0	158.6	122.4	116.3
65°	260.6	199.4	131.5	105.8	103.5
67.5°	230.5	169.2	105.8	92.9	90.7
70°	198.6	139.8	87.6	80.1	77.1
72.5°	168.4	112.5	73.2	67.3	65.7
75°	139.0	86.0	60.4	55.1	54.4
77.5°	109.6	61.2	47.6	44.5	43.0
80°	82.3	43.8	36.3	33.2	33.2
82.5°	57.4	29.5	24.9	23.4	23.4
85°	32.4	16.6	14.3	14.3	14.3
87.5°	12.1	6.1	6.1	5.3	5.3
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

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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

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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	6.63	7.31	7.77	8.43	9.99	2.62	3.30	3.75	4.41	5.97
	3H	8.28	8.88	9.42	10.01	11.58	3.78	4.39	4.92	5.51	7.09
	4H	8.86	9.44	10.01	10.57	12.14	4.21	4.79	5.36	5.91	7.49
	6H	9.26	9.78	10.41	10.92	12.51	4.51	5.04	5.67	6.17	7.76
	8H	9.37	9.87	10.53	11.02	12.60	4.59	5.09	5.75	6.24	7.82
	12H	9.41	9.89	10.58	11.03	12.64	4.62	5.10	5.78	6.24	7.84
4H	2H	6.63	7.20	7.79	8.33	9.91	3.18	3.76	4.34	4.88	6.46
	3H	8.42	8.90	9.58	10.05	11.64	4.50	4.98	5.66	6.13	7.72
	4H	9.09	9.53	10.25	10.67	12.28	5.03	5.47	6.19	6.61	8.22
	6H	9.57	9.95	10.74	11.11	12.71	5.42	5.80	6.59	6.96	8.56
	8H	9.73	10.08	10.90	11.24	12.85	5.54	5.89	6.70	7.04	8.66
	12H	9.80	10.12	10.99	11.29	12.91	5.58	5.90	6.77	7.07	8.69
8H	4H	9.04	9.39	10.21	10.55	12.16	5.28	5.63	6.45	6.79	8.41
	6H	9.57	9.86	10.76	11.06	12.68	5.77	6.06	6.96	7.26	8.87
	8H	9.77	10.03	10.97	11.20	12.84	5.95	6.20	7.14	7.38	9.01
	12H	9.89	10.11	11.08	11.29	12.95	6.05	6.27	7.24	7.44	9.11
12H	4H	8.98	9.30	10.17	10.47	12.09	5.28	5.59	6.46	6.76	8.38
	6H	9.55	9.80	10.74	10.98	12.61	5.81	6.07	7.01	7.24	8.88
	8H	9.74	9.97	10.94	11.14	12.81	6.00	6.22	7.20	7.40	9.07

END OF REPORT